

Session Descriptions

Friday

Great Transitions: The Origin of Humans - Examining the Evidence and Claims

Mark Eberhard, St. Clair High School
David Kenyon, Paw Paw High School

Primary Subject: BI
Interest Level: HS, CO
Location: LC - 201

Using FREE resources from the HHMI Biointeractive, we will explore evidence and claims for the evolutionary story of our human origins. In this hands-on session, participants will work through three field tested student activities that incorporate the NGSS core ideas and science practices. HHMI Biointeractive resources are always 100% FREE and are based on the primary literature of actual research being conducted in the field! Resources will be available to all participants!

1:30 p.m. - 2:30 p.m. – Workshop

Introduction to MEECS On-line Learning Portal

Susan Loughrin, Kevin Holohan, Amanda Syers, Grand Valley State University

Primary Subject: EN
Interest Level: LE, MS
Location: LC - 103

MEECS Online! MEECS workshops have been offered to Michigan Educators since 2006. MEECS is now adding online course to supplement the workshop training.

2:00 p.m. - 2:45 p.m. – Sessions

Academy of Natural Resources: Summer Professional Development for Educators

Becky Durling, Discovery Elementary School
Jon Gray, Waldon Middle School

Primary Subject: GS
Interest Level: EE, LE, MS, HS, CO
Location: LC - Governors

The Academy of Natural Resources is a fun, engaging, week-long camp for all educators! Come learn about the sessions offered this year, SCECH, graduate credit and more!

Carbon TIME Teaching Networks: Curriculum, Coordinating PD, and Professional Support

Christie Morrison Thomas, Carbon TIME
Jennifer Wilkening, Ann Arbor Huron High School

Primary Subject: AS, BI
Interest Level: MS, HS
Location: R - Regency 1

MS/HS science teachers: learn about the Carbon TIME (Transformations In Matter and Energy) teaching networks, which include NGSS-aligned curriculum, online assessments, materials, professional development, and (yes!) stipends.

Chemical Batteries (Energy for Grade 6)

Bill Cline, LAB-AIDS

Primary Subject: GS
Interest Level: MS
Location: LC - Banquet 5

Although we live a battery-powered lifestyle, most of us (middle school and high school students included) have no idea how batteries actually work. Make a wet cell battery. Explore the effect of using different metal electrodes on battery output, and consider ways to reduce the number of discarded batteries in the waste system. You'll engage in an activity from the SEPUP Science Grade 6 Program from LAB-AIDS that supports the new teacher/student talk ratios, and also has the literacy, notebooking, assessment strategies built in that makes it NGSS ready!

Coding for Kids Clubs: Engaging Students with Computer Programming at the Elementary Level

Kathy Surd, Mason-Lake Oceana Math/Science Center

Primary Subject: CO
Interest Level: EE
Location: R - Capital 4

Coding for Kids Clubs were established in elementary schools in Mason, Lake, and Oceana Counties using the code.org resources. (This program was developed under a grant awarded by the Michigan STEM Partnership in conjunction with the Mason-Lake Oceana Mathematics and Science Center.)

Differentiated Learning Through Stationed Activities

Cortney Ford, Mason High School

Primary Subject: BI
Interest Level: MS, HS
Location: LC - 203

Looking for lessons that get your students collaborating and thinking critically while they are actively engaged? Try using stations to reinforce old concepts and get your students thinking about new ideas.

Session Key:

Primary Subject Levels:

AS – Assessment/Curriculum
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IN – Instruction/Pedagogy
PH – Physics
AST – Astronomy

Interest Levels:

EE – Early Elementary
LE – Late Elementary
MS – Middle Level
HS – High School
CO – College
📖 – SCECH Session
📍 – Vendor Session

Location:

R – Radisson
LC – Lansing Center

Session Descriptions

Friday

2:00 p.m. - 2:45 p.m. *continued*

Engineering and Design Activities for Chemistry

Laura Bell, Stockbridge High School

Primary Subject: CH
Interest Level: HS
Location: LC - 104

Chemistry can be a difficult subject to incorporate engineering skills into. I will present several ideas and activities which focus on design, optimization, and creative applications of chemistry concepts.

Enhancing Classroom Learning Through Digital Dissection

Samantha Suiter, PETA

Primary Subject: BI
Interest Level: MS, HS, CO
Location: LC - 202

This interactive session includes hands-on experience with dissection software programs, covering educational efficacy, economic benefits and current laws/policies regarding the use of animals in science. Participants are asked to bring a laptop.

Green Chemistry Connections: Inspiring Students with Innovation

Erika Fatura, Pentwater Public Schools
Jennifer Sherburn, Hesperia Public Schools

Primary Subject: GS, EN
Interest Level: MS, HS, CO
Location: R - Capital 1

Beyond Benign, Steelcase Inc., and a team of MI high school chemistry teachers have teamed up to create an interactive set of lessons that highlight green chemistry innovation. Are mushrooms the new plastic? What does the surface chemistry of shark scales have to do with bacteria? How can we create safer pigments and dyes? Learn the answers to these questions and more. Attendees will receive free samples and door prizes will also be available!

Integrating Chromebook with Vernier Technology

Patti Smith, Vernier Software & Technology

Primary Subject: GS, CO
Interest Level: LE, MS, HS, CO
Location: LC - Banquet 6

Collecting and analyzing data helps students learn critical science concepts that increase test scores and promote science inquiry. This hands-on workshop will address data collection with Chromebook and Vernier technology, including LabQuest Mini. Experiments, such as Boyle's Law, Grip Strength Comparison, and Ball Toss, will be conducted.

Michigan's New Science Standards - Next Steps

Stephen Best, MI Department of Education-School Reform

Primary Subject: AS, GS
Interest Level: EE, LE, MS, HS, CO
Location: LC - Banquet 1 & 3

Michigan has (finally) adopted new Science Standards for K-12 Students. So, now what do we do? This session will look at strategies that the Michigan Department of Education is moving on to implement the standards, and will look at a variety of considerations for schools and educators in what next to consider. Issues will include assessments, instructional practices, curriculum development and alignment, teacher certification, educator evaluation, and other issues impacted by the new standards.

MSELA Strand

Processes for Collaborative Decision Making and Leveraging Different Perspectives-Take 2

Mike Gallagher, Oakland Schools

Primary Subject: AS
Interest Level: EE, LE, MS, HS, CO
Location: LC - 102

It's universal. Most science departments are comprised of people with varying beliefs about our aims, instructional practices and urgency for change. Join us again as we explore processes and communication norms so that the energy that comes from varying views can be harnessed in a productive way.

Reading in Science--Make Your Students Better Readers

Stephanie Niedermeyer, Joni Vancampenhout, Wayne Memorial High School

Primary Subject: GS, BI
Interest Level: MS, HS
Location: R - Capital 2

Get some great ideas on how to help your students to become better readers in science. Handouts and prizes will be given out!

Referee? Not Me! Stop Refereeing and Start Teaching!

Janet Jagitsch, Northwest Technical Institute

Primary Subject: IN
Interest Level: EE, LE, MS, HS
Location: R - Michigan 2

Reduce misbehavior without using gimmicks or bribing students. Win back more time to do what you love "teach" while empowering your students to make better choices and achieve success.

STEM = STEAM Different Sides of the Equation

David Larwa

Primary Subject: GS
Interest Level: EE, LE, MS, HS, CO
Location: R - Michigan 3

Artists and designers have given life and form to science. Join me for a new look at the technical and creative models of origami. Used today from auto design to heart operations, origami isn't a child's game.

Session Descriptions

Friday

Student Talk for Deeper Understanding - Discourse in Science

Patricia Richardson, Kristy Butler, Forest Hills Central High School

Primary Subject: BI, IN
Interest Level: MS, HS, CO
Location: LC - 204

Join us as we share ideas we have to get students talking to each other about content instead of listening to us talk to them. As students think with each other they build their content knowledge. We will share what discourse methods we use with our 9th grade through AP students. You will get to try some and handouts will be provided.

Teachers2Teachers International

Tom Wessels, TBA ISD
Chadd McGlone, Teacher 2 Teachers International

Primary Subject: GS
Interest Level: EE, LE, MS, HS, CO
Location: R - Michigan 1

T2T-I is a group of US-based educators who support science and mathematics teachers in schools around the world. Hear about a recent trip to a middle school in the rainforests of Ecuador.

Using Forensic Science to Teach Scientific Inquiry

Lindsey Patt, Forest Hills Central High School

Primary Subject: GS
Interest Level: HS
Location: R - Regency 2

Explore several inquiry-based forensic science activities that I use to incorporate the Next Generation Science Standards. Activities can easily be adapted to any science content area. Handouts will be provided.

Michigan Mathematics/Science Centers Network Strand

What is the Michigan Mathematics and Science Centers Network?

Amy Oliver, Allegan/Van Buren M/S Center

Primary Subject: AS
Interest Level: EE, LE, MS, HS, CO
Location: LC - 101

The MMSCN is a resource for ALL Michigan science teachers. Each of the 33 Centers runs professional learning and student programs. Learn about our work and what's happening at your Center.

2:00 p.m. - 3:45 p.m. - Workshop

Nature Tales - Storybooks to Science

Claire Lannoye-Hall, Lisa Forzley, Detroit Zoological Society

Primary Subject: EN
Interest Level: EE, LE
Location: R - Capital 3

Engage your students in science through activities stemming from popular youth literature. We'll share several storybooks with

simple low- or no-cost authentic science activities you and your students will enjoy!

3:00 p.m. - 3:45 p.m. - Sessions

Atmospheric and Earth Observations with Kite-Borne Sensors

David Bydlowski, Andy Henry, Wayne RESA

Primary Subject: ES, EN
Interest Level: MS, HS
Location: R - Capital 4

You and your students can use and design sensors to collect, process, and share data about our Earth's atmosphere, temperature, light, humidity and more.

Bacteria, Antibiotics and Antibiotic Resistance: What Your Students Need to Know

Elaine Bailey, MARR

Primary Subject: BI
Interest Level: LE, MS, HS
Location: LC - 203

This session will provide an overview of recent CDC report about antibiotic resistance threats in the U.S. and environmental impact and global concerns. Participants will also learn about a free two day high school biology/health, and a 2nd - 8th grade elementary curriculum. And much more!

Brilliant Biology

Joseph Spadafore, Kristy Butler, Forest Hills Central High School

Primary Subject: BI
Interest Level: HS
Location: LC - 204

Come and learn about new and engaging, inquiry-centered biology labs aligned to the NGSS. Handouts provided.

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Location:

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Session Descriptions

Friday

3:00 p.m. - 3:45 p.m. *continued*

Civics, Science, and Stewardship

Kevin Frailey, MI Dept. of Natural Resources

*Primary Subject: GS, EN
Interest Level: LE, MS, HS, CO
Location: LC - Governors*

America's model of wildlife conservation and the holding of these resources in the public trust is one of the greatest conservation achievements in history. Learn how you can relate these important themes into your science classes and demonstrate that America's crucial natural resources belong to you and your students. Their future is dependent on the service and stewardship of future generations.

Michigan Mathematics/Science Centers Network Strand

Defining STEM

Kathy Agee, Regional M/S Center @ GVSU

*Primary Subject: AS, IN, GS
Interest Level: EE, LE, MS, HS, CO
Location: LC - 101*

Through examining current definitions of STEM education, active discussion, and reflection, develop your own working definition of STEM to share with parents and stakeholders and guide classroom instruction.

Documenting Student Growth through Interactive Notebooking

Sara Schymick, Sue Vitolins, Warren Woods Middle School

*Primary Subject: AS, GS
Interest Level: LE, MS, HS
Location: R - Regency 2*

Learn how to incorporate interactive science using the formative assessment process and standards-based grading. You will have access to tools that will allow students to goal set and assess their progress towards content specific targets.

Exploring Innovative Approaches to Blended STEM Instruction

Andrew VandenHeuvel, Michigan Virtual University

*Primary Subject: CO, IN
Interest Level: HS, CO
Location: R - Michigan 2*

Major movements in K-12 science education, including the NRC framework, blended learning, and STEM education are creating unique opportunities to break the traditional boundaries between academic programs and vocational training.

Fostering Three-Dimensional Learning: Curiosity in the Science Classroom

Wendy Johnson, MSU - Dept of Teacher Ed.

*Primary Subject: GS, IN
Interest Level: MS, HS, CO
Location: LC - 202*

This session presents results from classroom research demonstrating the importance of eliciting students' ideas and scaffolding their scientific curiosity. I will share examples, resources, and strategies that teachers can implement immediately.

Great, Cheap, Easy Demonstrations for Matter and Energy

Andrew Frisch, Farwell Area Schools

*Primary Subject: GS, IS
Interest Level: LE, MS, HS
Location: LC - 205*

There will be several great demonstrations designed for upper elementary through introductory high school science courses. These demonstrations will focus on Laws of Conservation of Energy and Law of Conservation of Matter.

I-Engineering: Tools for Teaching and Learning Engineering Practices

Angela Calabrese Barton, MSU

*Primary Subject: GS, PH
Interest Level: MS
Location: R - Michigan 1*

I-Engineering provides tools to support middle school teaching and learning of engineering practices with a simultaneous focus on positive student identities in engineering (core ideas focus: energy systems).

Making Connections with the 7E Learning Cycle

Gary Curts, Ohio Education Association

*Primary Subject: EG
Interest Level: HS
Location: R - Regency 1*

Bring the 7E learning cycle (elicit, engage, explore, explain, elaborate, evaluate, extend) into your classroom and give your students the opportunity to connect Crosscutting Concepts, build Disciplinary Core Ideas from the ground up and use Science and Engineering Practices inside the classroom everyday.

POGIL Activities for AP Chemistry from Flinn Scientific

Jillian Saddler, Flinn Scientific

*Primary Subject: CH, BI
Interest Level: HS
Location: LC - 104*

Process Oriented Guided Inquiry Learning (POGIL) activities guide students. This workshop will present strategies for incorporating POGIL activities into your AP Chemistry course, and will provide free sample activities.

Session Descriptions

Friday

Putting the Practices into Practice 📖

Holly McGoran, Jenison Junior High School

Primary Subject: GS
Interest Level: LE, MS
Location: R - Capital 1

Be ready to actively engage in the science and engineering practices as we look at examples of implementation at the upper elementary and middle school levels.

STEM Summer Camp 📖

Emma Haygood, Amanda Barrett, Gervea Ornopia, Berrien Springs Middle School

Primary Subject: GS
Interest Level: EE, LE, MS
Location: R - Michigan 3

Does your district want to start their own STEM summer camp opportunity for students? We will share how our district engaged K-8 students with hands-on engineering and coding projects.

The Panel: Questions and Answers Regarding the Michigan Science Standards

MSTA Leadership

Primary Subject: AS, GS
Interest Level: EE, LE, MS, HS
Location: LC - Banquet 1 & 3

Panel: Stephen Best, MI Department of Education-School Reform

State and National Science leaders from Michigan will share perspectives, resources, and thoughts about next steps for work on the new Michigan Science Standards. Some time will be given for questions.

MSELA Strand

Using the Equip Rubric to Guide Materials Adoption

Jen Arnsward, Ionia Public Schools

Primary Subject: AS
Interest Level: EE, LE, MS, HS, CO
Location: LC - 102

Join us as we use the Equip Rubric to evaluate and examine curricular materials.

Who Infected Whom? (Cell Biology for Grade 7) 📖 📖

Bill Cline, LAB-AIDS

Primary Subject: GS
Interest Level: MS
Location: LC - Banquet 5

In this activity from the SEPUP middle level life science series, participants use a chemical simulation for the transmission of infectious, communicable diseases. By keeping careful records of their interactions with other participants, they are able to track the progress of the contagion in a fictional school community. You'll engage in an activity from the SEPUP Science grade 7 Program from LAB-AIDS that supports the new teacher/student talk ratios, and also has the literacy, notebooking, assessment strategies built in that makes it NGSS ready!

3:00 a.m. - 4:45 p.m. - Workshops

Beak of the Finch: Using Statistics in Biology 📖

David Kenyon, Paw Paw High School
Mark Eberhard, St. Clair High School

Primary Subject: BI
Interest Level: HS, CO
Location: LC - 201

Using FREE resources from the HHMI Biointeractive, we will explore the use of mathematics and modeling in the biology classroom. In this hands-on session, participants will work through several field tested student activities based on Peter and Rosemary Grant's groundbreaking work with the Galapagos finches. These activities will incorporate the NGSS core ideas and science practices. HHMI Biointeractive resources are always 100% FREE and are based on the primary literature of actual research being conducted in the field! Resources will be available to all participants!

Engaging Students in Scientific Argumentative Reading, Writing, and Thinking 📖

Ellen Karel, Katie Parrish, Byron Center High School

Primary Subject: AS, LT
Interest Level: MS, HS
Location: LC - Banquet 8

How to change your instructional and assessment practices so that students can improve their ability to read, write, and think about real world, data rich, science concepts. This session will provide opportunities to see and try research based classroom strategies that work!

Fast, Fantastic Formative Assessment for the Science Classroom 📖

Mark Francek, CMU - Geography

Primary Subject: AS, GS, IN
Interest Level: EE, LE, MS, HS, CO
Location: R - Capital 2

Receive hands on experience using fun, quick, and effective formative assessment techniques. Some of these resources are activities that can be implemented in seconds to using phone apps.

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Session Descriptions

Friday

3:00 p.m. - 3:45 p.m. *continued*

Planning and Designing Safe and Sustainable Science Facilities for Project-Based/STEM Curriculum

LaMoine Motz

Primary Subject: GS
Interest Level: EE, LE, MS, HS
Location: LC - Banquet 6

Needing new science facilities? Does your curriculum define your science teaching facility? With more than 20 years of conducting visits and presentations of new/renovated school science facilities, the lead author of the NSTA GUIDE TO PLANNING SCHOOL SCIENCE FACILITIES, (2nd Ed.) will present "basics" of science facility planning for safe, ergonomically designed, and sustainable facilities.

CREATE for STEM Institute Strand

Resources Integrating NGSS and CCS with Project-Based Learning

Susan Codere Kelly, NGSS Michigan - CREATE for STEM
Joseph Krajcik, Deborah Peek-Brown, CREATE for STEM Institute
Mario Lemmons, Dezia Harper, Moria Custodio, Henry Ford Academy

Primary Subject: AS, IN
Interest Level: EE, LE
Location: LC - Banquet 7

Introducing the Multiple Literacies in Project-Based Learning Project:

- Bring science to life for young learners
- Experience 3-D Learning to meet NGSS, incorporate CCS
- Learn about free resources under development

3:00 p.m. - 5:00 p.m. – Workshop

MEECS Energy Resources

Jessica Wagenmaker, Holton Middle School

Primary Subject: AS, EN
Interest Level: LE, MS
Location: LC - 103

Investigate a broad array of topics such as electricity generation, renewable and nonrenewable energy resources, energy conservation and sustainability.

4:00 p.m. - 4:45 p.m. – Sessions

Active Physics/Active Chemistry: Inquiry Science That Engages Students

Gary Curts, It's About Time

Primary Subject: C, PH
Interest Level: HS
Location: R - Regency 1

No matter their career path, our students will be surrounded by a world of science and technology. In our high school Active Physics

and Active Chemistry programs, employing the same engineering practices that engineers use as they design and build models and systems, students develop through highly collaborative, hands-on, computer-rich, interactive learning environments. Also includes solutions to real world problems while improving conceptual understanding. Come see a true STEM approach to learning.

Carbon TIME: Free NGSS-Aligned Biology Curriculum and Professional Development Opportunities

Wendy Johnson, MSU - Dept of Teacher Ed.
Cheryl Hach, Kalamazoo Area Math/Science Center

Primary Subject: BI, EN
Interest Level: MS, HS
Location: LC - 202

The Carbon TIME (Transformations in Matter and Energy) curriculum includes six phenomena-based units tracing matter & energy through processes such as photosynthesis and respiration at different scales. Opportunities to join a professional learning network.

Cognitively Impaired Inclusion Classes in Biology, Chemistry, Physics, etc.?

Janis Buckingham, Jackson Northwest High School

Primary Subject: IN
Interest Level: MS, HS
Location: R - Capital 1

CI Inclusion Class? "I'm not trained!" Don't panic. Practical "What to do's," suggestions, ideas and supplies for survival will be presented. Aides? Mentors? Processes for Success will be shared. You can do it! Some hands-on and handouts given.

Energy that Powers Michigan

Andrew Frisch, Farwell Area Schools

Primary Subject: GS, PH
Interest Level: LE, MS, HS
Location: LC - 205

The Law of Conservation of Energy rules our modern world. This session will explain how our natural resources are turned into electricity. Then it will expand on how these fuels are the cause of Global Climate change. It will demonstrate how leaving your lights on is causing the polar ice caps to melt.

Human Population: Past, Present and Future Carrying Capacity

Larry Feldpausch

Primary Subject: EN
Interest Level: MS, HS
Location: R - Regency 2

More than the demographic facts of life, the social, economic and environmental impact of a burgeoning population will also be explored. The approach to the issue is interdisciplinary. Lessons for teachers outside of science will be shared.

Session Descriptions

Friday

Investigate Forensics with Flinn Scientific

Meg Griffith, Flinn Scientific

Primary Subject: CH, BI
Interest Level: HS
Location: LC - 104

See demonstrations of a variety of products and activities that will get your students engaged in forensic science! Features professional grade products used by real CSI teams. From footwear impression castings to fingerprints there is always something left behind at a crime scene to be analyzed.

MSELA Strand

Leading the Change Toward NGSS: Department Chair Round Table

Wendi Vogel, Kent Intermediate School District

Primary Subject: AS
Interest Level: EE, LE, MS, HS, CO
Location: LC - 102

Join department chairs, science coaches, and curriculum leaders in a round table discussion on leading the change to NGSS.

Live Animals & Bio Facts – Natural Tools for Learning

Dennis Laidler, Potter Park Zoo

Primary Subject: EN
Interest Level: EE, LE
Location: LC – 203

Using live animals we will discuss strategies for keeping classroom animals, bringing in animal guest, and visiting zoos, nature centers and farms. Includes best practices pitfalls and how to maximize benefits.

Making It Real... Cheap!

Darrick Gregory, STARBASE- Battle Creek
Jodi Heaney, Julie Hahn, Parchment School District

Primary Subject: GS
Interest Level: LE, MS
Location: R - Michigan 3

This session will include a variety of examples involving “real-world” science that can be done for little or no cost. Presenters will incorporate technology to enhance ideas, and handouts will be provided.

NASA's Soil Moisture Measurement Mission

David Bydlowski, Andy Henry, Wayne RESA

Primary Subject: ES, EN
Interest Level: MS, HS
Location: R - Capital 4

NASA's Soil Moisture Active Passive Mission (SMAP) measures soil moisture from space. Get involved by collecting GLOBE measurements for “ground-truthing.” You and your students can be part of GLOBE and NASA's SMAP Mission.

Scientific Models: Shifting Lessons in Modeling to Deepen Conceptual Understanding

Adrienne Griffith, Diana Bowman, Armstrong Middle School

Primary Subject: AS, IN
Interest Level: LE, MS
Location: R - Michigan 2

Explore one school's journey in shifting lessons to effectively develop, use, and evaluate scientific models. View sample of student notebooks, modeling lessons, evaluation tools, and department discussion topics. Handouts provided.

Standards-Based Grading in the Next Generation

Phil King, Eric Johnson, Lakeview Middle School

Primary Subject: AS, IN
Interest Level: LE, MS, HS
Location: LC - 204

Learn a practical set of steps to make the shift to a standards-based grading system. Promote student proficiency on learning targets, streamline your interventions, and foster student ownership and reflection.

Talk Moves: Guiding Engaging Science Discussions

Richard Bacolor, Pierce Middle School

Primary Subject: GS
Interest Level: EE, LE, MS, HS
Location: R - Michigan 1

NGSS asks students to do the heavy lifting in developing a deep understanding of science concepts. This session gives teachers a framework for facilitating small and whole group discussions that help students go beyond “learn about” science, and “figure out” science for themselves.

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Session Descriptions

Saturday

Saturday, March 5, 2016

8:00 a.m. - 8:45 a.m. – Sessions

Bridging Physical Education and Environmental Education at the Elementary Level

Patricia McNinch, Mayville Elementary School

Primary Subject: EN
Interest Level: EE, LE
Location: R - Capital 1

Teaching Physical Education through experiences in Environmental Education gives opportunities for students to become physically fit and to encourage students to explore science in new ways.

Elementary Strand

Catapult your Kids into an Elementary STEM Project!

Crystal Brown, Parsons Elementary School

Primary Subject: GS, IN
Interest Level: EE, LE
Location: LC - 104

Elementary students thrive in STEM based projects! They want to create, build, tear apart and re-build. K-5 teachers will walk away with hands on experience and resources for a unit that is project-based and developed for students to explore, research and learn about the concepts of energy. They will then apply their understanding to build and redesign their best performing catapult model. Students are questioning, researching, analyzing, testing, and re-designing. Come see how a catapult unit can incorporate the cross-cutting concepts, disciplinary core ideas, and scientific and engineering practices in a meaningful way!

Chemistry Teacher Meeting

Mary Jordan McMaster, Allen Park High School

Primary Subject: CH
Interest Level: HS
Location: R - Regency 1

Join other high school chemistry teachers to discuss recent developments and opportunities pertaining to teaching Chemistry.

Get a Sneak Peek at the BCAMSC MSS Aligned Units

Nancy Karre, Battle Creek Area Math/Science Center

Primary Subject: AS, IN
Interest Level: EE, LE, MS
Location: LC - Banquet 8

This session will give current and interested participants in the BCAMSC Science unit program a glimpse into the BCAMSC alignment process, progress, and how districts and teachers can prepare for MSS in the classroom.

Great, Cheap, Easy Demonstrations for Matter and Energy

Andrew Frisch, Farwell Area Schools

Primary Subject: GS, IS
Interest Level: LE, MS, HS
Location: LC - 203

There will be several great demonstrations designed for upper elementary though introductory high school science courses. These demonstrations will focus on Laws of Conservation of Energy and Law of Conservation of Matter.

Human Population: Past, Present and Future Carrying Capacity

Larry Feldpausch

Primary Subject: EN
Interest Level: MS, HS
Location: LC - 102

More than the demographic facts of life, the social, economic and environmental impact of a burgeoning population will also be explored. The approach to the issue is interdisciplinary. Lessons for teachers outside of science will be shared.

MSS & STEM can be FUN!!

Lu Anne Clark

Primary Subject: ES, PH
Interest Level: EE, LE
Location: R - Michigan 3

A fun, hands-on and interactive presentation of several Michigan science standard STEM earth and physical science related activities for children that are cheap and supply friendly. Handouts will be available.

Muffins for Members

Robby Cramer, MSTA Executive Director
Jen Arnsward, MSTA President Elect
Paul Drummond, MSTA Membership Chair

Primary Subject: IS, AS
Interest Level: EE, LE, MS, HS, CO, Administrators
Location: LC - 101

Consider the next steps needed regarding the new Science standards. What do you need from your professional organization? Meet MSTA teacher early adopters! Learn more about the current work of MSTA leaders to help Michigan teachers transition to the new Michigan Science Standards. Share your needs!

Next Steps Planning for Curriculum and Instruction

Megan Schrauben, Tamara Smolek, MDE - John Hannah Bldg.

Primary Subject: GS
Interest Level: EE, LE, MS, HS, CO
Location: LC - 104

MDE has grant opportunities and standards updates to share. We hope to show how the different initiatives support each other and answer any questions that you may have for us.

CANCELED

Session Descriptions

Saturday

8:00 a.m. - 9:45 a.m. – Workshops

Energizing Lessons Learned from a Chemistry Teacher & Industry Partnership

R. Charles Dershimier, U of M - School of Education
Vicki Behe
Rebecca Talik, Carrollton High School
Mary Hillebrand, Calvary Baptist Academy
Scott Harrison, Freeland Middle School

Primary Subject: CH
Interest Level: MS, HS
Location: LC - Banquet 6

Learn about engaging chemistry lessons developed through a partnership with the American Association of Chemistry Teachers and Dow Chemical Company. Handouts for lessons and information on ACS Science Coaches provided.

Investigate Photosynthesis and Cellular Respiration Using Algae Beads!

Tamica Stubbs, Bio-Rad Laboratories

Primary Subject: CH, BI
Interest Level: MS, HS
Location: LC - Banquet 2

In this hands-on workshop, learn how algae beads can be used in inquiry investigations to study photosynthesis and cellular respiration in a calorimetric assay that examines CO₂ consumption and release.

NASA STEM: The Scoop on Soils (Grades K-9)

Susan Kohler, NASA Glenn Research Center

Primary Subject: ES, IN
Interest Level: EE, LE, MS
Location: LC - 202

Experience water studies with the NASA GLOBE resources including teacher guides, ELA storybooks and related STEM activities designed for grades K-6. The activities promote problem solving, and communication skills.

Physics Make and Take

Steve Dickie, Divine Child High School
James Gell, Plymouth High School

Primary Subject: PH
Interest Level: MS, HS
Location: R - Capital 3

Participants will have the opportunity to construct several apparatuses for classroom demonstrations of physics phenomena. These apparatuses will be constructed of inexpensive and easily-obtainable materials. Sponsored by the MIAAPT.

Playing with Underwater Gliders and Exploring Engineering Design Process

Nina Mahmoudian, Donna Ziaee Fard, Michigan Tech

Primary Subject: AS, EN, IN
Interest Level: MS, HS
Location: LC - 205

A hands-on activity for exploring engineering design process inspired by underwater gliders exploring ocean environment will be presented. The activity is inexpensive and can be easily adopted in classrooms.

Project-based Learning - Using Video-enhanced Lessons

Mike Heithaus, Houghton Mifflin Harcourt

Primary Subject: BI
Interest Level: MS, HS
Location: LC - 204

Project-based Learning - Using Video-enhanced Lessons to Bring Students Into the Field.

Shish-Kebab Planet: (This is not a cooking class)

David Mastie

Primary Subject: ES, GS
Interest Level: LE, MS
Location: R - Michigan 2

Participants will: Skewer an Earth model, Illustrate Earth's tilt, model latitude and longitude, discover year, seasons, time zones and satellite orbits. Build a magnetometer to find Earth's magnetism and poles, and use sky calendars.

Stability and Change in Michigan Ecosystems: An Example Mi-STAR Unit

Robin Allen, Barbara McIntyre, Midland Public Schools

Primary Subject: AS, GS
Interest Level: MS
Location: R - Capital 2

Mi-STAR is developing an integrated science curriculum for Michigan that aligns with NGSS. Participate in hands-on activities from a classroom-tested unit on health and disturbance of Michigan ecosystems. Handouts provided.

Session Key:

Primary Subject Levels:

AS – Assessment/Curriculum
CH – Chemistry
ES – Earth Science
GS – General Science
LT – Literacy
BI – Biology
CO – Computer/Technology
EN – Environmental Education
IN – Instruction/Pedagogy
PH – Physics
AST – Astronomy

Interest Levels:

EE – Early Elementary
LE – Late Elementary
MS – Middle Level
HS – High School
CO – College
📖 – SCECH Session
👤 – Vendor Session

Location:

R – Radisson
LC – Lansing Center

Session Descriptions

Saturday

8:00 a.m. - 9:45 a.m. *continued*

The Physiological Impact of Poverty on Behavior and Academic Performance

Audrey Richardson, Detroit Public Schools

Primary Subject: GS, IN
Interest Level: EE, LE, MS, HS, CO
Location: LC - Governors

Examine how acute and chronic stressors impact low socioeconomic students' behavior and academic performance. Demonstrate and discuss effective strategies to reduce the impact of poverty on behavior and academic performance. This includes a "hands-on" activities. Handouts will be provided.

What's in Your Walls? Teaching Sustainability through NGSS

Gwen Windiate, Sheri Turner, Emily Gochis

Primary Subject: CH, ES
Interest Level: MS, HS
Location: LC - 201

Mi-STAR is developing an integrated science curriculum for Michigan that aligns with NGSS. Participate in activities from a classroom-tested unit on the life cycles of building materials. Handouts provided.

8:30 a.m. - 10:30 a.m. – Workshop

MEECS Climate Change

Janet Vail, Grand Valley State University

Primary Subject: AS, EN
Interest Level: MS, HS
Location: LC - 103

Learn about climate and weather, the energy balance, the carbon cycle, and the Greenhouse effect. Students will observe change in the Earth's cycles and climate.

9:00 a.m. - 9:45 a.m. – Sessions

Elementary Inquiry Extravaganza!

Tim Larrabee and Betty Crowder, Oakland University

Primary Subject: GS
Interest Level: EE, LE, MS, HS
Location: LC - Banquet 1

Join the fun as Oakland University pre-service teachers provide you with a wealth of inquiry and engineering activities that will engage your students and their inquisitive minds. This hands-on session targets elementary science and engineering, but many of the activities could be adjusted for younger or older students.

Energy that Powers Michigan

Andrew Frisch, Farwell Area Schools

Primary Subject: GS, PH
Interest Level: LE, MS, HS
Location: LC - 203

The Law of Conservation of Energy rules our modern world. This session will explain how our natural resources are turned into electricity. Then it will expand into how these fuels are the cause of Global Climate change. It will demonstrate how leaving your lights on is causing the polar ice caps to melt.

Engaging Science for English Language Learners (ELLs)

Puja Mullins, Brick Elementary School
Amanda Pringle, Lincoln Consolidated Schools

Primary Subject: AS, IN
Interest Level: EE, LE, MS, HS
Location: R - Michigan 3

Children learn language and science in much the same way through authentic, meaningful experiences. Learn strategies for ELLs and struggling readers in your science class. Participate in activities that target language and literacy goals through science content.

Facilitating Students' Understanding of the Structure and Properties of Matter

David Doherty, BitWixt Software Systems

Primary Subject: CH, CO
Interest Level: MS, HS
Location: LC - Banquet 4

From middle to high school, students' understanding of the structure/properties of matter increases in complexity. We demonstrate 3D atomic and molecular models, for laptops/Chromebooks and iPads, to facilitate this growth in understanding.

Global Change in the Classroom: Creating Stewards of the Earth

Zakiya Jackson, Detroit Public Schools
Diana Koss, Ralph J. Bunche Pre K-8 School

Primary Subject: EN
Interest Level: LE, MS
Location:

Make environmental science come alive for all students through interactive and engaging hands-on projects. Global change topics including stewardship, outdoor education, and environmental appreciation and literacy will be addressed. For general Ed, and special Ed. teachers alike.

Session Descriptions

Saturday

Elementary Strand

How to Deliver a Dynamic Elementary Science Lesson with Rigor 📖

Derek Sale, Gompers Elementary/Middle School

Primary Subject: GS, IN
Interest Level: EE, LE, MS
Location: LC - 101

This session will provide several strategies to transform your everyday elementary science lesson plan into a dynamic learning moment for your students.

Science and the MDE Early Literacy and Numeracy Initiative 📖

Megan Schrauben, Tamara Smolek, MDE - John Hannah Bldg.

Primary Subject: LT, IN
Interest Level: EE, LE
Location: LC - 104

You may have heard about the Governor's Third-Grade Literacy Workgroup Report and how additional funds are moving into classrooms to support this work--come find out how science directly relates to this work, the supports and initiatives that MDE is working on, and how your students will greatly benefit.

Teacher Professional Development without the Loss of Instructional Time with Students 📖

Michelle Cline, Hope for K-8 Education

Primary Subject: IS
Interest Level: EE, LE, MS
Location: LC - 102

Does your district struggle with finding substitutes? Are you tired of leaving plans that are not taught by the sub while you attend PD? We have the solution for you!

The Art of Chemistry 📖

Jelane Richardson, Allen Park High School

Primary Subject: CH
Interest Level: HS
Location: R - Regency 1

Come see how Art and Chemistry blend to make great hands-on experiences for Chemistry.

The Chemistry of Color: Getting Students on the Right Frequency 📖

Bill Cline, LAB-AIDS

Primary Subject: CH
Interest Level: HS
Location: LC - Banquet 5

Would you use a spectrophotometer in your high school chemistry classes if it were inexpensive, reliable, and easy for students to use? Since this powerful tool is a common feature in modern chemical

analysis - of course you would! Join us for hands-on activities using RGB spectrophotometers to explore simple serial dilutions and core applications of the technology. From a **Natural Approach to Chemistry** from LAB-AIDS.

What's Going On Under Ground? Michigan Potatoes: Nutritious and Delicious! 📖

Amelia Miller, Michigan Farm Bureau

Primary Subject: BI, EN
Interest Level: MS
Location: LC - Banquet 7

Investigate differences between roots and tubers in this plant science and nutrition lesson. Meeting 7 - 9 grade science and main standards.

9:00 a.m. - 10:45 a.m. - Workshops

Eco Impact: How Our Choice Affect the Earth and Its Inhabitants 📖

Lisa Forzley, Detroit Zoological Society

Primary Subject: EN
Interest Level: EE, LE, MS, HS, CO
Location: R - Capital 4

Participate in hands-on activities/discussions that will connect our daily choices with the impact they have on the planet. Walk away with lessons that you can immediately implement in your classroom.

Session Key:

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Session Descriptions

Saturday

9:00 a.m. - 10:45 a.m. *continued*

Engineering the Future - Exploring Engineering Design in the NGSS

**Dr. Eric Mann, Hope College - Dept of Math/Phy/Eng.
Susan Ipri-Brown, Lindsey Grynewics, Sherah Head, Alex Klunder, Hope College**

*Primary Subject: EN
Interest Level: EE
Location: LC - Banquet 3*

After a brief introduction to the engineering design process, participate in a hands-on design challenge that you can take back to your classrooms. Handouts will be provided.

Framing Your Lessons in Phenomena

Nancy Karre, Battle Creek Area Math/Science Center

*Primary Subject: IN
Interest Level: EE, LE, MS
Location: LC - Banquet 8*

Make the shift from inquiry-based lessons to a lessons framed in relevant phenomena! Learn how to frame lessons in phenomena that is applicable and significant to student learning and aligned with MSS.

9:00 a.m. – Noon – Workshop

The Modeling Method in Electricity and Magnetism

**Donald Pata, Grosse Pointe North HS
Laura Ritter, Troy High School**

*Primary Subject: PH
Interest Level: EE, LE, MS, HS
Location: R - Regency 2*

Participants will create and apply models in electrostatics, circuits and magnetism. They will be introduced to the Modeling Method for teaching physics through hands on activities designed to engage and enlighten.

10:00 a.m. - 10:45 a.m. – Sessions

An Integrated Approach to Teaching Metamorphic Rocks of Michigan

Sarah Van Goor, GVSU

*Primary Subject: ES
Interest Level: MS, HS
Location: R - Capital 1*

Participants will explore a new, integrated approach to teaching about the metamorphic rocks and history of Michigan using hand samples, Google Earth, and geologic maps.

Bacteria, Antibiotics and Antibiotic Resistance: What Your Students Need to Know

Elaine Bailey, MARR

*Primary Subject: BI
Interest Level: LE, MS, HS
Location: LC - 204*

This session will provide an overview of recent CDC report about antibiotic resistance threats in the U.S. and environmental impact and global concerns. Participants will also learn about a free two day high school biology/health, and a 2nd – 8th grade elementary curriculum. And much more!

Bridging the STEM Gap with Science Olympiad

Michele Svoboda

*Primary Subject: AS
Interest Level: EE, LE, MS, HS
Location: R - Regency 1*

Learn about the Science Olympiad program and how many of the events will translate into STEM lessons that support NGSS. Lesson ideas will be shared in a handout.

Co-Robots Can Serve as Co-Educators for Students

Nina Mahmoudian, Michigan Tech

*Primary Subject: AS, CO, IN
Interest Level: MS, HS, CO
Location: LC - 205*

This session introduces two of Michigan Tech robots (GUPPIE and Neu-pulator) that enable students to learn how robots can help to explore the environment and augment human capabilities.

Continuing the Journey into Technology; Building a Curriculum

Carl Van Faasen, Holland High School

*Primary Subject: CH
Interest Level: HS
Location: LC - 104*

I will share the curriculum I built that is available to all online. We will discuss the advantages and disadvantages of 1:1 technology in the classroom as we prepare for the future of education.

Fingerprint of an Atom

Bill Cline, LAB-AIDS

*Primary Subject: CH
Interest Level: HS
Location: LC - Banquet 5*

Students have trouble relating electron orbitals and spectra lines. Join us for a unique and fun atom building model experience. After modeling electron configurations, we will explore how color is used to identify elements using a unique deck of spectrum cards to take home. In fact, we will send you home with 58 engaging chemistry labs from **A Natural Approach to Chemistry** from LAB-AIDS that support the new teacher/student talk ratio.

Session Descriptions

Saturday

FREE teacher/student STEM labs and Career Exploration Labs

Robert Tonti, Macomb Community College

Primary Subject: IN, IS
Interest Level: MS
Location: LC - 102

FREE Teacher/Student STEM labs taught in your classroom for Macomb, Oakland and Wayne County schools. Learn how to bring the STEM Outreach program to your school or community group.

Elementary Strand

Integrate Literacy & Writing into Elementary Science by Using Interactive Notebooks

Carolyn Mammen, Hart Middle School
Brian Peterson, Musson Elementary School
Betty Crowder, Oakland University

Primary Subject: GS
Interest Level: EE, LE, MS
Location: LC - 101

Don't skip science in your elementary classroom - use it to strengthen your students expository writing and reading by integrating science notebooks into your instruction and make science fun!

Michigan Environmental Literacy Plan Update

Elaine Kampmueller, MAEOE
Tom Occhipinti, DEQ
Megan Schrauben, MDE
Pan Bunch, STEM Learning Connections

Primary Subject: EN
Interest Level: EE, LE, MS, HS, CO
Location: LC - Banquet 7

A summary of the MIELP will be presented by members of the MIELP task force. Attendees will be able to ask questions, make suggestions, and give feedback on this plan.

Michigan's Magnetic Secrets

Eric Engel, South Lyon East High School

Primary Subject: ES
Interest Level: HS
Location: LC - 202

See how Michigan Technological University's Research Experience for Teachers in Paleomagnetism can be used to help students get over their misconceptions about the Earth's magnetic field.

Modeling Dynamic Equilibrium Activity

Scott Milam, Plymouth Canton Community Schools

Primary Subject: CH
Interest Level: MS, HS, CO
Location: R - Capital 3

A hands on activity for representing dynamic equilibrium. Models will be constructed for concentration and rate. The activity can be used for AP chemistry or for physical equilibrium situations.

Science in the Making: 3-D Printing

Christie Gayheart, Jefferson Middle School

Primary Subject: GS
Interest Level: MS, HS
Location: LC - 203

Real-world engineering design and modeling. The fun begins by building 2-liter bottle rockets, and ends with a challenge between classes of redesigned bottle rockets with 3-D printed fins.

Simple and Effective Ways to Bring Inquiry Into Your Classroom

Jaime Ratliff, Patrick Lothrop, Lapeer Community Schools

Primary Subject: GS
Interest Level: LE, MS
Location: LC - Governors

Leary of inquiry? Let us help you bring inquiry to your classroom. We have assembled an easy to follow plan to help you scaffold and get started right away! Handouts provided.

Small Eruptions with Big Impacts: An Eyjafjallajokull-like eruption in U.S.?

Brooke Ramsey
Steve Mattox, GVSU

Primary Subject: ES
Interest Level: MS, HS
Location: R - Michigan 2

Participants predict movement of the Eyjafjallajokull ash cloud and the economic and political impacts. Then apply a model of an ash cloud from Redoubt over America and evaluate the impacts.

"Spring" into Hands-on Learning

Krystle St. John, Nah Tah Wahsh PSA
Emily Gochis, Michigan Tech University

Primary Subject: ES, PH
Interest Level: MS, HS
Location: LC - 201

Engage students by connecting unique natural sites to scientific phenomena. In this NGSS hands-on lesson, students apply basic principles of energy to investigate the source of Michigan's largest spring.

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📍 – Vendor Session

Location:

R – Radisson
LC – Lansing Center

Session Descriptions

Saturday

10:00 a.m. - 10:45 a.m. *continued*

Standards-Based Grading in the Next Generation

Phil King, Erik Johnson, Lakeview Middle School

*Primary Subject: AS, IN
Interest Level: LE, MS, HS
Location: LC - Banquet 4*

Learn a practical set of steps to make the shift to a standards-based grading system. Promote student proficiency on learning targets, streamline your interventions, and foster student ownership and reflection.

Teach Students How to Write a Story Using LEGO

Ivery Toussant, LEGO Education

*Primary Subject: GS
Interest Level: EE, LE, MS, HS
Location: LC - Banquet 1*

Is there a student on Earth who doesn't love LEGO? StoryStarter, from LEGO Education, taps into that enthusiasm with a language and literacy product that combines an inviting tub of LEGO's with thoughtful lessons on user-friendly writing and comic software while addressing core standards. Hands-on Elementary.

Three-Dimensional Learning in Your Classroom: Applying NGSS through Michigan Themes

**Jennifer Grivins, Eaton Rapids High School
Brenda Bergman, Michigan Tech University**

*Primary Subject: AS, GS
Interest Level: LE, MS, HS, CO
Location: R - Capital 2*

Unpack the three dimensions of NGSS and identify ways to engage Michigan students in NGSS through 21st-century applications, real-world data, and significant places related to Michigan. Hands-on and handouts provided.

10:00 a.m. - 11:45 a.m. - Workshops

Creative Engineering in STEM Using Design Thinking for Problem Solving

**R. Charles Dershimer, U of M - School of Education
Christopher Patten, Henry Ford Learning Institute**

*Primary Subject: IN
Interest Level: MS, HS
Location: LC - Banquet 6*

Participate in this hands-on design challenge where you use design thinking to creatively solve a problem that meets human needs. A great way to introduce engineering to your students.

Institute of Food Technologists - Middle and High School Outreach Program

Gene Maly, Institute of Food Technologists

*Primary Subject: AS, IN
Interest Level: MS, HS
Location: R - Michigan 3*

IFT is an international professional association composed of chemists, microbiologists, nutritionists, and food scientists. IFT is dedicated to providing nutritious foods to the world. We will detail the teaching resources IFT has to assist middle and HS teachers to teach the basics of the chemistry of food.

Science Saturdays---Detroit Public Schools' Monthly Hands-On Science PLCs

**Amy Lazarowicz, Neinas Elementary School
Alica Brown, Detroit Public Schools
Donna Holtz**

*Primary Subject: AS, IN
Interest Level: LE
Location: LC - Banquet 2*

Participate in a condensed version of Science Saturdays Workshops. District Teacher Leaders plan and facilitate grade level PLCs using hands-on activities for the current curriculum and science concepts. GRADES 3-5.

11:00 a.m. - 11:45 a.m. - Sessions

An Integrated to Teaching the Geology of the Cascade Volcanoes

Claire Sobolak, Grand Valley State University

*Primary Subject: ES
Interest Level: HS, CO
Location: R - Michigan 2*

Participants will explore a new integrated approach to teaching igneous petrology and volcanology of the Cascade Range using hand samples, Google Earth, and geologic maps.

Bull's Eye Lab for Different Levels of Physics

Amy Stone, Jason Colegrove, Forest Hills Central HS

*Primary Subject: PH
Interest Level: HS
Location: LC - 205*

Explore two dimensional projectile motion where students are required to predict where to place a target to be hit with a projectile. Hands on lab. Handouts are provided.

Challenge Your Students to Make Waves

Michael Suckley, Paul Klozik

*Primary Subject: GS, IN, PH
Interest Level: LE, MS, HS, CO
Location: LC - 201*

Sound is the sensation perceived by the ear caused by the vibration of some medium. This workshop will explore sound through the use of the "Sound Portal" which provides access to thirty

Session Descriptions

Saturday

classic hands-on activities/demonstrations designed to illustrate fundamental characteristics of sound using easily available materials. The "Portal" can be accessed through the internet or downloaded and modified for specific classroom or individual use.

Differentiated Learning Through Stationed Activities

Cortney Ford, Mason High School

*Primary Subject: BI
Interest Level: MS, HS
Location: LC - 204*

Looking for lessons that get your students collaborating and thinking critically while they are actively engaged? Try using stations to reinforce old concepts and get your students thinking about new ideas.

Do It Outdoors - MSS/ GLCE's, ELA, Math, and More!

Jody Harrington

*Primary Subject: AS, EN
Interest Level: EE, LE
Location: R - Regency 1*

Combine science with reading, writing, and math in an active outdoor garden setting. Get students "doing science" using the latest Michigan Science Standards (or GLCE's), Science Practices, and Crosscutting Concepts. Participants will be presented with MSS Performance Expectations aligned to each grade level with the best Environmental Education activities.

Enhancing Classroom Learning Through Digital Dissection

Samantha Suiter, PETA

*Primary Subject: BI
Interest Level: MS, HS, CO
Location: LC - 202*

This interactive session includes hands-on experience with dissection software programs, covering educational efficacy, economic benefits and current laws/policies regarding the use of animals in science. Participants are asked to bring a laptop.

Exploring the Science Explanation Framework through What's Your Evidence?

**Jan Douglas, Pioneer Middle School
Donna Pahl, Carrie McManus, Plymoth-Canton Community Schools**

*Primary Subject: IN
Interest Level: EE, LE
Location: LC - 102*

A district science instructional coach and two elementary teachers will share their experience of transforming their teaching from "hands-on" to "minds-on" through a study of What's Your Evidence? Handouts provided.

Family Engineering Night: A Night for the Whole Family!

Kristie Massey, Allen Academy

*Primary Subject: GS
Interest Level: EE, LE
Location: R - Capital 3*

Want to get families involved and you're not sure how? Host a Family Engineering Night! Learn how with hands on activities. Hand outs will be provided.

Interactive (and effective!) Formative Assessment for your Science Classroom

Shawn McNamara, Grosse Pointe Public Schools

*Primary Subject: AS, ES
Interest Level: EE, LE, MS, HS, CO
Location: R - Capital 1*

Looking for quick and effective ways to assess your students' progress? Experience first-hand how to use a variety of high-tech and low-tech tools for measuring student learning.

Michigan's New Science Standards - Next Steps

Stephen Best, MI Department of Education-School Reform

*Primary Subject: AS, GS
Interest Level: EE, LE, MS, HS
Location: LC - 101*

Michigan has (finally) adopted new Science Standards for K-12 Students. So, now what do we do? This session will look at strategies that the Michigan Department of Education is moving on to implement the standards, and will look at a variety of considerations for schools and educators in what next to consider. Issues will include assessments, instructional practices, curriculum development and alignment, teacher certification, educator evaluation, and other issues impacted by the new standards.

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Session Descriptions

Saturday

11:00 a.m. - 11:45 a.m. *continued*

NGSS, CCSS, and 21st Century Skills Oh MI!

Katie Stevenson, Fisher Elementary
Richard Bacolor, Pierce Middle School

Primary Subject: AS, IN
Interest Level: EE, LE, MS
Location: R - Capital 2

Overwhelmed with all of the standards you have to teach? Trying to get students college and career ready? Leave with strategies that address CCSS and NGSS while preparing students for the 21st century. Handouts provided.

Powerful Science Notebooks

Joanne Rowe, Birmingham Public Schools
Michelle Ladd, West Maple Elementary School

Primary Subject: GS, IN
Interest Level: EE, LE
Location: LC - 203

Learn how to leverage science notebooks using the NGSS Science and Engineering Practices. Templates, journal entry types, student examples, implementation strategies, assessments, rubrics will be shared. Electronic handouts provided.

Reorganizing Biology Content - A Bottom Up Approach

Julie Alexander, Erin Marsh, Grand Ledge High School

Primary Subject: BI
Interest Level: HS
Location: LC - Banquet 1

Join us on a journey through the biology content that begins in the cell and ends with ecology. Attendees will participate in several hands-on activities. Handouts will be provided.

Simple, Authentic Inquiry

Claire Lannoye-Hall, Detroit Zoological Society

Primary Subject: IN
Interest Level: EE, LE, MS, HS
Location: R - Capital 4

This hands-on workshop will provide attendees with examples of simple ways to incorporate authentic inquiry in the classroom. Successes and challenges will be openly shared and discussed.

Solutions for Delivering Engineering Design into the Science Classroom

Jason Albert Rossner, BES Solutions

Primary Subject: AS, IN
Interest Level: LE, MS, HS
Location: LC - Banquet 4

Our active-learner digital program teaches standards-based math, science, engineering, and English language skills to elementary, middle and high school children. The online digital curriculum is designed to meet the Next Generation Science Standards and aligns with a range of state standards. Students and teachers will

want to spend time in our STEM labs. Our comprehensive library contains over 1,000 STEM lessons, which are available anytime, anywhere online.

Supporting English Learners in the Science Classroom

Wendi Vogel, Kent Intermediate School District
Sanela Spreccic, Kentwood Public Schools

Primary Subject: IN
Interest Level: EE, LE
Location: LC - Banquet 8

Join an EL teacher and a science teacher walk through some research-based ways to assist these learners in your science classroom, while still honoring their culture.

The Kirtland's Warbler: A New Vision for Endangered Species Conservation

Abigail Ertel, Kirtland's Warbler Alliance

Primary Subject: BI, EN
Interest Level: EE, LE, MS, HS
Location: LC - Banquet 3

As birds go, the Kirtland's Warbler is a rock star. People come from all over the world to see it in its northern Michigan summer home. They are attracted to it because it is so rare (only about 4,000 birds in the total population) and because it has a fascinating story. That story may soon be changing: There are signs that the Kirtland's Warbler may soon be coming off the Endangered Species List. That change would present several challenges because the species is conservation reliant -- it depends upon continuing intervention by humans for its survival. So, what happens if the species is removed from the ESA and conservation efforts are withdrawn? The presentation will include an overview of the bird's biology, causes of its near extinction, efforts that have been made to bring it back from the brink, and a look at a new vision for conservation that relies on public-private partnerships. I will provide handouts.

Transform your Science Fair into a STEM Challenge Fair!

Crystal Brown, Parsons Elementary School

Primary Subject: GS, IN
Interest Level: EE, LE
Location: LC - 104

If you've been doing the same old Science Fair, come learn about the amazing opportunities for a STEM Challenge Fair! You will see your students able to design their own models, analyze their own results, and use their data to re-develop a better model.

Using Climate Proxies to Learn About Earth's Climate History

Bill Cline, LAB-AIDS

Primary Subject: ES
Interest Level: MS, HS
Location: LC - Banquet 5

How can scientists tell what Earth's climate was like thousands of years before human measurements? This activity simulates the use of fossil ocean foraminifera, tiny organisms whose growth patterns

Session Descriptions

Saturday

are different in warm and cold water. Your students will analyze and graph samples of replicas of these organisms, and use this information to determine relative warm and cold periods in the past 200,000 years. This activity is from EDC Earth Science, and new NSF-sponsored earth system program that uses an active, BIG DATA approach from LAB-AIDS that supports the new teacher/student talk ratio, and also has the literacy, notebooking, assessment strategies built in that make it IGSS ready!

Introduction to MEECS On-line Learning Portal

Susan Loughrin, Kevin Holohan, Amanda Syers, Grand Valley State University

*Primary Subject: EN
Interest Level: LE, MS
Location: LC - 103*

MEECS Online! MEECS workshops have been offered to Michigan Educators since 2006. MEECS is now adding online course to supplement the workshop training.

12:00 p.m. - 12:45 p.m. – Session

The Panel: Questions and Answers Regarding the Michigan Science Standards

MSTA Leadership

*Primary Subject: AS, GS
Interest Level: EE, LE, MS, HS
Location: LC - 101*

Panel: Stephen Best, MI Department of Education – School Reform

State and National Science Teachers from Michigan will share perspectives, resources, and thoughts about next steps for work on the new Michigan Science Standards. Some time will be given for questions.

1:00 p.m. - 1:45 p.m. – Sessions

Bring Out the “T” in STEM with Special Education Students

**Jennifer Wickersham, Peck Elementary School
Deb Stephan, Rockwell Junior High School**

*Primary Subject: CO
Interest Level: LE, MS
Location: R - Capital 4*

Technology does not have to be overwhelming. Lessons that incorporate the use of technology by special education students will inspire you to remember that there are no limits to what students can do!

Design A Sustainable Future

**Joan Chadde, W UP Cntr-Sci/M & Envir. Ed.
Lauri Davis, Houghton High School**

*Primary Subject: EN
Interest Level: LE, MS, HS
Location: R – Michigan 3*

Students are confronted by many challenging issues in today's world, from climate change to pollution, overpopulation, and more. This session will present a positive counter-balance. There is a lot happening to support sustainability and today's youth need to hear about it so they can aspire to sustainable career paths and feel positive about the future. Students will investigate building design, renewable energy sources, product life cycles, transportation, vehicle design, sustainable forestry, and food systems.

Energizing Education-A Complete and Free Energy Unit for Michigan Students

Michelle Mitchell, Michelle Stepek, Consumers Energy

*Primary Subject: ES, EN
Interest Level: LE, MS, HS
Location: LC - 205*

Consumers Energy will showcase our new Energy Unit targeted at middle and high school students and demonstrate several hands-on activities from the unit. Attendees receive a copy of the unit containing 12 energy lessons covering a range of energy topics.

Great Adaptations: Teaching Practices That Support Diverse Learners

Julia Maceri, Cheryl Czarnik, Davis Jr. High School

*Primary Subject: GS, IN
Interest Level: EE, LE, MS
Location: R - Regency 2*

The power of a learning community builds strong relationships, resulting in adaptations of teaching practices. The outcome is highly engaging science for students with diverse needs.

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PH – Physics
AST – Astronomy

Interest Levels:

EE – Early Elementary
LE – Late Elementary
MS – Middle Level
HS – High School
CO – College

📖 – SCECH Session
🗑️ – Vendor Session

Location:

R – Radisson
LC – Lansing Center

Session Descriptions

Saturday

1:00 p.m. - 1:45 p.m. *continued*

Integrating Effective Leadership, Science Literacy, and Technology into Science Instruction

Tooba Mansoor, Dearborn Center for M/S/Tech

Primary Subject: GS
Interest Level: MS, HS
Location: R - Capital 3

Experience hands-on activities to incorporate literacy and technology in your science classroom. In addition, learn leadership skills to assist students to become better leaders. Handouts will be provided.

Interdisciplinary Learning for a Changing Planet

Holly Schaeffer, Potterville Public Schools

Primary Subject: BI, EN
Interest Level: MS, HS
Location: LC - 202

Participate in hands-on activities that apply math and science skills to tackle major global challenges, including human population pressures, finite natural resources and climate change. Receive a CD of lesson plans.

MCSS Strand

Letting Swift River Go

Carol Bacak - Egbo, Oakland Univeristy

Primary Subject: LT, EN
Interest Level: EE, LE
Location: LC - Banquet 7

Learn how to use picture books focusing on human/environment interaction to engage students in inquiry and connect science, social studies, and literacy.

Physics of Atomic Nuclei - Learn About MSU Cyclotron and FRIB

Caleb Miller, Richard Lund, St. Johns Public High School

Primary Subject: CH, PH, AST
Interest Level: MS, HS
Location: R - Capital 1

Learn about the research being done at the MSU Cyclotron and FRIB facility including summer workshops for teachers, students and field trips. Door prizes, hand-outs and hands on activities related to star life cycles, rare isotopes, and astro-physics for all ages!

Promoting Collaborative Learning and Productive Interactions in the Science Classroom

Paula Gentile, Jennifer Garland, Belleville High School

Primary Subject: GS, BI
Interest Level: HS
Location: R - Regency 1

This session focuses on strategies to support science students in collaborating on task-based initiatives, critiquing the work of their peers, and productively interacting with one another throughout the learning process.

Science Saturdays---Detroit Public Schools' Monthly Hands-On Science PLCs

Jennifer Edwards, Ronald Brown Academy
Constance Elliott, Detroit Public Schools
Rosemarie Gurin

Primary Subject: AS, IN
Interest Level: EE
Location: LC - Banquet 4

Participate in a condensed version of Science Saturdays Workshops. District Teacher Leaders plan and facilitate grade level PC's using hands-on activities for the current curriculum and science GLCEs. (First Grade).

STEM = STEAM Different sides of the Equation

David Larwa

Primary Subject: GS
Interest Level: EE, LE, MS, HS, CO
Location: LC - Governors

Artists and designers have given life and form to science. Join me for a new look at the technical and creative models of origami. Used today from auto design to heart operations, origami isn't a child's game.

Elementary Strand

STEM for All Elementary Students!

Crystal Brown, Parsons Elementary School

Primary Subject: GS, IN
Interest Level: EE, LE
Location: LC - 103

Providing incorporated Science, Technology, Engineering, and Mathematical experiences for ALL elementary students can be daunting. Come to gather ideas for STEM projects designed for each grade level, using materials readily available or inexpensive. I will provide resources teachers can use/adapt to teach any STEM project and we will complete one STEM project that could be adapted to be used K-5. Tap into your students' natural curiosity and desire to build and problem solve with a STEM project!

Contagion! Track the Progress of Dangerous Viruses throughout the Country

Tamica Stubbs, Bio-Rad Laboratories

Primary Subject: CH, BI
Interest Level: MS, HS
Location: LC - Banquet 1

Disease can spread like wildfire through populations. Become an epidemiologist in this hands-on workshop and track diseases like the fictional Zombie Virus. See if you can track down patient zero!

Session Descriptions

Saturday

Super Science from the Smithsonian

Laura Trombley, Shields Elementary School
Mary Jo Griffin, Adams Elementary School

Primary Subject: ES, BI, CO
Interest Level: EE, LE
Location: LC - 102

Looking for new ways to strengthen the science curriculum in your classroom? Why not look to the most notable science institution in the world? Join members from the 2014 and 2015 Smithsonian Science Education Academies for Teachers (SSEATS) as they share many of the amazing activities and FREE resources offered by the Smithsonian.

Talk Moves: Guiding Engaging Science Discussions

Richard Bacolor, Pierce Middle School

Primary Subject: GS
Interest Level: EE, LE, MS, HS
Location: R - Michigan 1

NGSS asks students to do the heavy lifting developing a deep understanding of science concepts. This session gives teachers a framework for facilitating small and whole group discussions that help students go beyond "learn about" science, and "figure out" science for themselves.

Teaching Evolution: A Conversation About Misconceptions and Models

Kara Haas, MSU - Kellogg Bird Sanctuary
Jamie Bowman, Thornapple Kellogg Schools

Primary Subject: BI
Interest Level: MS, HS
Location: LC - 204

Hands-on models and discussion tips for Teaching Evolution (TE). The TE project brought together students, mentor teachers and MSU faculty/educators to learn about evolution and methods to engage students in the classroom.

Thermochemistry and LOL Diagrams for All Levels

Peg Convery, Farmington High School

Primary Subject: CH
Interest Level: MS, HS
Location: R - Capital 2

Use modeling techniques to teach thermochemistry conceptually through the use of energy exchange diagrams, affectionately called LOL diagrams.

Tools for Helping Teach Meiosis

Arthur Wohlwill, Lansing Community College

Primary Subject: BI
Interest Level: HS, CO
Location: LC - Banquet 6

In order to help students understand meiosis I have developed several hands-on activities including a cooperative game that links genetics and meiosis.

Update on Credit-by-Exam at Michigan High Schools for University Physical Geology

Christina Sobolak, Steven Mattox, Grand Valley State University

Primary Subject: AS, ES
Interest Level: HS, CO
Location: R - Michigan 2

The number of students taking and passing the exam for college credit continues to grow. We share and discuss challenges, support, and opportunities for your students to succeed in geology.

Elementary Strand

Using Outstanding Science Trade Books

Conni Crittenden, Williamston Schools

Primary Subject: GS
Interest Level: EE, LE
Location: LC - 101

Connecting science with great trade books. List from the Children's Book Council/NSTA Outstanding Science Trade Book Awards and activities to use with the books provided.

1:00 p.m. - 2:45 p.m. - Workshops

Asking Questions About Our Changing Climate: An Example Mi-STAR Unit

Stephanie Tubman, Michigan Tech University

Primary Subject: AS, GS
Interest Level: MS
Location: LC - Banquet 2

Mi-STAR is developing an integrated science curriculum for Michigan that aligns with NGSS. Participate in hands-on activities from a classroom-tested unit on climate change causes and mitigation. Handouts provided.

CANCELED

Session Key:

Primary Subject Levels:

AS - Assessment/Curriculum
CH - Chemistry
ES - Earth Science
GS - General Science
LT - Literacy
BI - Biology
CO - Computer/Technology
EN - Environmental Education
IN - Instruction/Pedagogy
PH - Physics
AST - Astronomy

Interest Levels:

EE - Early Elementary
LE - Late Elementary
MS - Middle Level
HS - High School
CO - College
📖 - SCECH Session
🏪 - Vendor Session

Location:

R - Radisson
LC - Lansing Center

Session Descriptions

Saturday

1:00 p.m. - 2:45 p.m. *continued*

Implementing Low Cost Engineering Projects for the MS/HS Classroom

**Yonee' Bryant-Kuiphoff, Linden Grove Middle School
Chery Hach, Kalamazoo Area M/S Center**

*Primary Subject: GS, IN
Interest Level: MS, HS
Location: LC - 203*

Are you experiencing anxiety with Engineering Practices? Let us help you discover low cost projects to take back to your classroom. Hands-on experience.

Lloyd's Toolbox of Engineering Ideas & Activities

**Lloyd Hilger, Jonesville Middle/High School
Judy Warner, Williams Elementary School**

*Primary Subject: GS
Interest Level: LE, MS, HS, CO
Location: LC - 104*

In this presentation we will be looking at the engineering design process and how to teach engineering in a variety of grade levels. We will also look at ways to help students become more aware of various engineering careers. Many lesson plans and resources will be provided. Also, please come ready to share any engineering resources that you have.

The Arts in ENGINEERING

**Kimberlee Quinn, Miller Elementary School
Michael Quinn, Centerline Public Schools**

*Primary Subject: GS, IN
Interest Level: EE, LE, MS
Location: LC - 201*

Come experience one the many authentic and engaging Engineering Design Challenges that can be created by YOU! Gain a new perspective on every day materials and how to integrate multiple content areas into a single challenge. This is sure to get your students thinking critically and creatively.

2:00 p.m. - 2:45 p.m. – Sessions

A Climate Change in Your Classroom!

Mary Ann DeVries

*Primary Subject: IN
Interest Level: EE, LE, MS, HS
Location: LC - Banquet 8*

Science Education is extremely important! To be successful, effective management is essential. Join this session and leave with tools that will create a positive climate change in your classroom!

Advancements in Science and Medicine - History of Laboratory Animal Use

Robert Sigler, Unit for Laboratory Animal Medicine

*Primary Subject: BI
Interest Level: MS, HS
Location: LC - 202*

Examples of scientific and medical advancements with emphasis on Michigan contributions. The history and role of lab animals in these discoveries and regulatory oversight of animal use will be discussed.

Amazing Productive Discussion in the Science Classroom

**James Dehaan, De La Salle Collegiate
Don Pata, Grosse Pointe High School**

*Primary Subject: IN
Interest Level: EE, LE, MS, HS, CO
Location: LC - 102*

Through an immersion in the techniques and strategies that maximize dialogue, teachers will learn the tools that help initiate and sustain productive student discussions in science classrooms.

Creating and Programming Apps at the Elementary Level

Maggie Thelen, Carly Pomarius, Michele Bates, Kat Humphreys, Rockford Public Schools

*Primary Subject: CO
Interest Level: LE
Location: LC - 103*

Though a STEM grant from the state of Michigan, all upper elementary students have an opportunity to learn how to create a mobile app. We will be using the MAD-Learn site and curriculum along with learning HTML to create the apps.

Daytime Astronomy

Sherry Clafin, Hesperia High School

*Primary Subject: ES, AST
Interest Level: MS, HS
Location: LC - 205*

You can teach Astronomy in the daytime! Find out how to use real data to meet your STEM objectives. Hands-on activities with hand outs and resources provided.

Elementary Strand

Integrating Science in Social Studies

Brian Peterson, Musson Elementary School

*Primary Subject: GS
Interest Level: EE, LE
Location: LC - 101*

We have all heard of Aristotle, Galileo, Edison, and Newton. But do you know how Alf Adams impacted the world of science every time you go shopping? In this session we will help integrate the world of science with your social studies lessons.

Session Descriptions

Saturday

Minecraft in the Classroom: Incorporating Video Games into Core Instruction

Melissa Gosbee, Carson City Crystal Upper Elementary School

Primary Subject: GS, CO
Interest Level: LE, MS, HS
Location: R - Michigan 3

Video games are a passion of many students. Bring their passion into the classroom by exploring what Minecraft truly involves and how to use it across the science curriculum. Handouts provided.

Science Saturdays--Detroit Public Schools' Monthly Hands-On Science PLCs

Kathryn Sergeant, Ronald Brown Academy
Deidre Davis, Detroit Public Schools

Primary Subject: AS, IN
Interest Level: EE
Location: LC - Banquet 4

Participate in a condensed version of Science Saturdays Workshops. District Teacher Leaders plan and facilitate grade level PLCs using hands-on activities for the current curriculum and science GLCEs. (Second Grade).

Speed-Reading and Other Time Saving Teaching Techniques

Laura Harris, Davenport University

Primary Subject: BI, IN
Interest Level: MS, HS, CO
Location: R - Regency 1

Instructors can more efficiently use their time if they could read and grade faster. This hands-on presentation with handouts teaches Evelyn Wood speed-reading techniques and ways to grade faster.

Using Authentic Environmental Research to Engage High School Biology Students

Lauri Davis, Houghton High School

Primary Subject: BI, EN
Interest Level: MS, HS
Location: LC - 204

Learn how you can engage your students in real-world, authentic environmental research. All you need is a few simple supplies, an outdoor area, and some students! Informational handouts provided.

Using Particle Diagrams to Increase Student Learning in Chemistry

Michelle Tindall, Birmingham Public Schools

Primary Subject: CH, IN
Interest Level: HS
Location: R - Capital 2

Drawing particle diagrams can be used in chemistry classes to promote discussions, explain laboratory observations, and assess student understanding. Examples of these particle diagram activities using whiteboards will be discussed.

MCSS Strand

What Does This Graphic Say? Learning From Graphs or Maps

Phil Gersmehl, Michigan Geographic Alliance

Primary Subject: EN, IN
Interest Level: LE, MS, HS
Location: LC - Banquet 7

Brain research identifies multiple parallel "pathways" for processing visual input. These underlie individual differences in "reading" visual aids. The optimum window for developing graph-reading skill is earlier than formerly thought.

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HS - High School
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 - SCECH Session
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Location:

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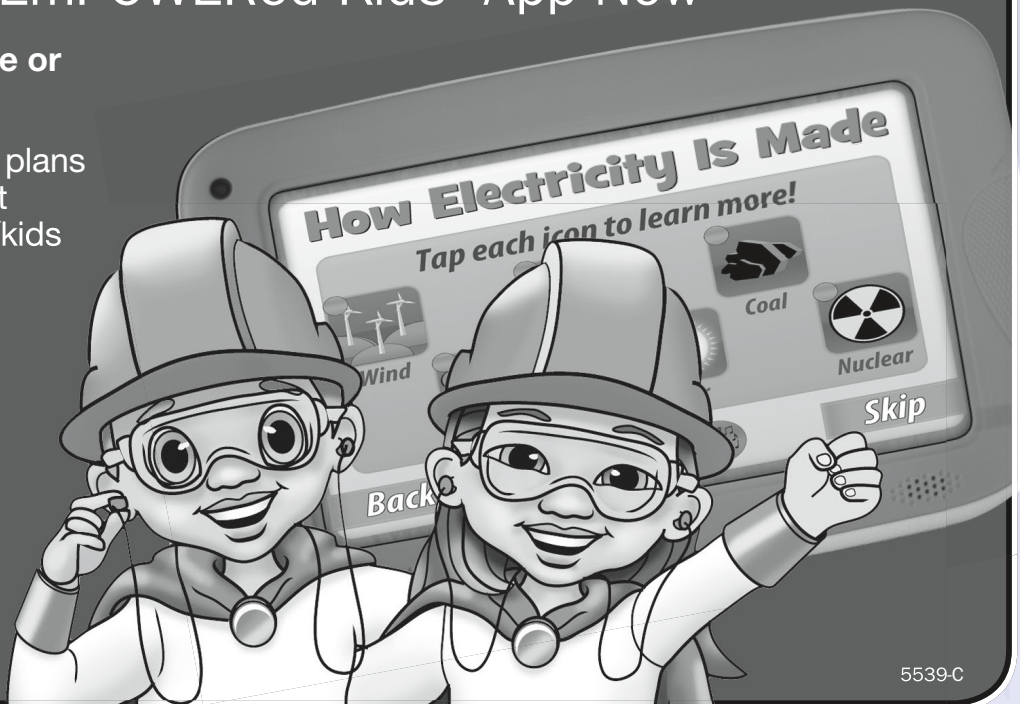
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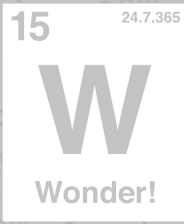
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Book a field trip with
100+ students and receive

10% OFF A TRAVELING SCIENCE PROGRAM!

Does not apply to Sciencepalooza. Field trip must be booked before 2/29/2016 and take place within the 2015-2016 school year.



www.Mi-Sci.org



MI.Science.Center



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The Michigan Science Center is a 501(c)(3) Nonprofit organization.

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clowe@nmu.edu

Region 14 Director - Lynn Thomas

8949 Stagecoach Q.5 Ave.
Gladstone, MI 49837
lynnthomas@eskyamos.com

Award Winners

NOTE: This is only a list of the last five years of award winners. For a full list of the award winners since 1974, contact the MSTA office.

2013

Elementary Science Teacher of the Year _____	Diane Krzyaniak
Middle School Science Teacher of the Year _____	Monica Harvey
High School Science Teacher of the Year _____	Erika Fature
College Science Teacher of the Year _____	Dr. James McDonald
Informal Science Educator _____	Gerald Pahl
Distinguished Service Award _____	Roberta Cramer
Dan Wolz Clean Water Education Grant _____	Dave Chapman

2014

Elementary Science Teacher of the Year _____	Julee Cowher
Middle School Science Teacher of the Year _____	Mark Koschmann
High School Science Teacher of the Year _____	Richard Eberly
College Science Teacher of the Year _____	Dr. Mary Brown
Informal Science Educator _____	Paula Gangopadhy
Distinguished Service Award _____	David McCloy
Distinguished Service Award _____	Mike Klein
The George G. Mallinson Award _____	Joseph Krajcik
Dan Wolz Clean Water Education Grant _____	Donald Hammond/Tammy Coleman

2015

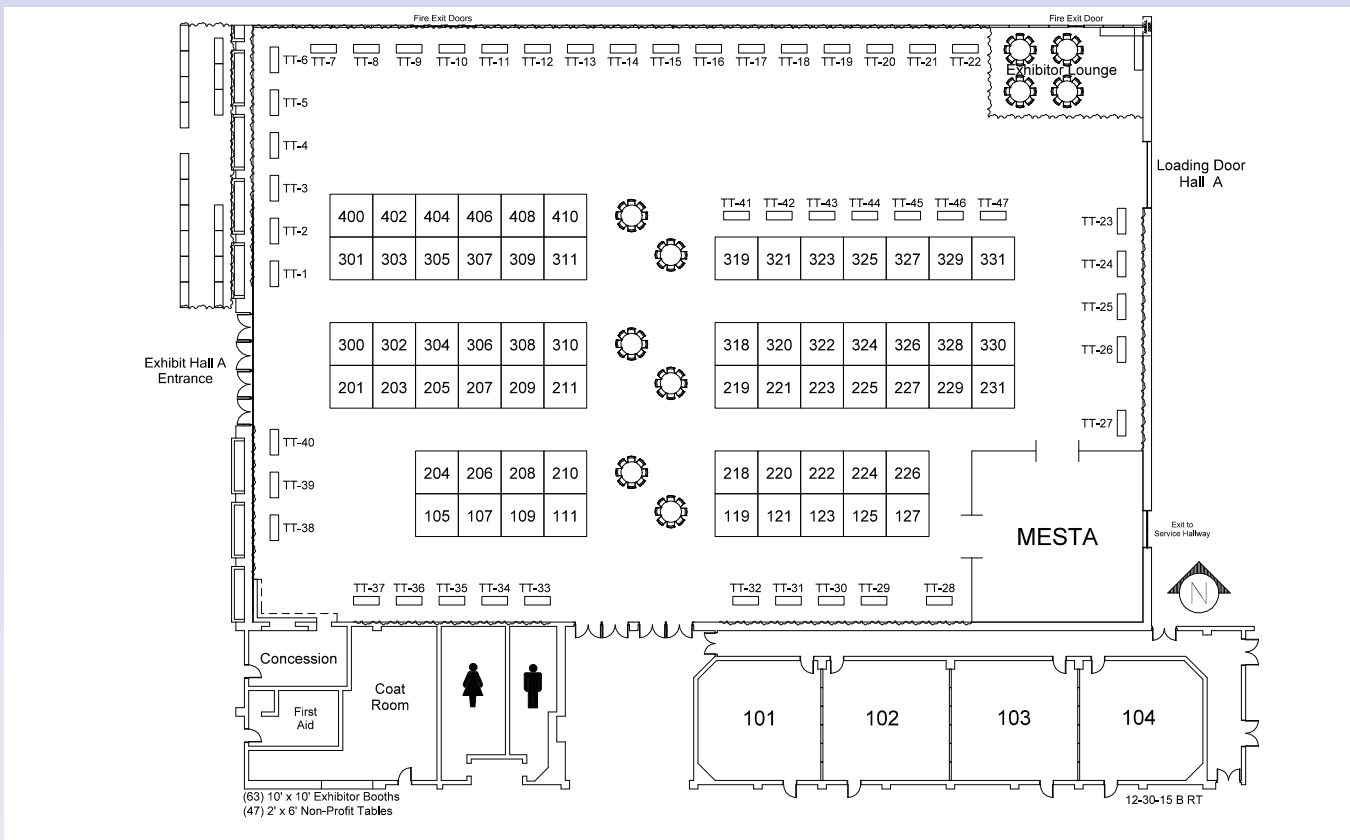
Teacher of Promise _____	Ashley Meyer
Elementary Science Teacher of the Year _____	Patricia McNinch
Middle School Science Teacher of the Year _____	Holly McGoran
High School Science Teacher of the Year _____	Deanna Cullens
College Science Teacher of the Year _____	Dr. Bradley Ambrose
Administrator of the Year _____	Greg Johnson
Informal Science Educator _____	Stephen Stewart
Distinguished Service Award _____	Betty Crowder
The George G. Mallinson Award _____	David Bydlowski
Dan Wolz Clean Water Education Grant _____	John Travis/Josh Nichols

2016

Teacher of Promise _____	Dakota Bahlau
Teacher of Promise _____	Paula Gentile
Elementary Science Teacher of the Year _____	Sherri Hane
Middle School Science Teacher of the Year _____	Colleen Polydoros
High School Science Teacher of the Year _____	Joshua Barclay
College Science Teacher of the Year _____	Dr. Mark Francek
Informal Science Educator _____	Janet Vail
MSTA Special Award _____	Stephen Best
Distinguished Service Award _____	Cheryl Hach

Exhibitor Information

Lansing Center - Exhibit Hall A



TT 45 — AWWA/MWEA – Youth Education Committee

PO Box 397
Bath, MI 48808

AAWA and MWEA members are dedicated to improving, preserving, restoring, and enhancing Michigan's water and water supply as well as educating others to do the same.

211 — The Arts in Engineering - 2 Perspectives

3946 N. Shore Drive NE
Kalkaska, MI 49646
313-590-4000

The Arts in Engineering brings an accessible and affordable set of constructs and processes to the K-5 and 6-8 classrooms with aligned and integrated instructional practices.

111 – miniPCR

1770 Massachusetts Ave., Suite 167
Cambridge, MA 02140
888-317-0512

The miniPCR DNA Discovery System™, is the complete bitechnology lab for K-College educators. miniPCR machine, blueGel™ electrophoresis, and a micropipette all for under \$1,000. Engage students in real-world hands-on inquiry with DNA!

105 — Activate Learning

134 6th Ave.
LaGrange, IL 60525
708-205-5691

Activate Learning offers the best inquiry-based/3-dimensional learning curriculum programs for K-8. Active Science and IQWST motivates students to learn while building literacy skills coherently and adhering to all 8 NGSS scientific practices.

123 — Ann Arbor Hands-On Museum

220 East Ann Street
Ann Arbor, MI 48104
734-995-5439

Ann Arbor Hands-On Museum delivers educational programs to students at the museum, at your site, and virtually. All programs align with Michigan Science GLCEs, NGSS, and Common Core.

208, 210 — Arbor Scientific

PO Box 2750
Ann Arbor, MI 48106
734-477-9370

For nearly 30 years, Arbor Scientific has worked with teachers to develop educational science supplies, instruments, and lab equipment that makes learning fun for students.

Exhibitor Information

TT 8 — Arts & Scraps: Education Reimagined

16135 Harper
Detroit, MI 48224
313-640-4411

Arts & Scraps, a Detroit, nonprofit, makes classroom packs from recycled industrial materials. Students THINK about topics and BUILD their ideas to solve challenges.

TT 7 — Battle Creek Area Mathematics & Science Center

171 W. Michigan Ave.
Battle Creek, MI 49017
269-213-3905

BCAMSC/Cereal City Science program, provides science units for K-MS. The program is aligning with NGSS (MSS) with focus on science and engineering.

TT 25 — Battle Creek Outdoor Education Center - Clear Lake Camp

10160 South M 37 Hwy
Dowling, MI 49050
269-721-8161

Battle Creek Outdoor Education Center provides both residential and day programs for schools across the state.

TT 47 — Bay Sail Appledore Tallships

107 Fifth Street
Bay City, MI 48708
989-895-5193

BaySail delivers a hands-on, STEM-based environmental education program called "Science Under Sail", aboard the Schooners Appledore IV & Appledore V.

201, 203 — Benz Microscope Optics Center, Inc.

3980 Varsity Drive
Ann Arbor, MI 48108
734-994-3880

Sale and service for microscopes and science supplies.

207 — Bio-Rad Laboratories

6000 James Watson Drive
Hercules, CA 94547

Bio-Rad provides high quality, real world, hands-on life science products and customizable professional development.

306 — BitWixt Software Systems

PO Box 1144
Minnetonka, MN 55345
612-387-5787

Bitwixt develops AtomsmithR interactive, 3D chemistry software and supporting curriculum. Atomsmith models help students to "see" the otherwise useable world of atoms and molecules and to connect the three levels of chemistry: particulate (sub-microscopic), symbolic, and macroscopic.

TT 17 — Camp Invention - Invent Now

3701 Highland Park NW
North Canton, OH 44720
330-849-6969

Camp Invention is the only nationally recognized, nonprofit elementary enrichment program backed by the National Inventors Hall of Fame.

TT 19 — Carbon TIME (Transformations In Matter & Energy)

620 Farm Lane - 244 Erickson Hall
East Lansing, MI 48824
517-432-9620

Carbon TIME (Transformations In Matter & Energy) is a program providing MS/HS curricular units, coordinated teacher professional development, and teacher networks, from Michigan State University.

224, 226 — Carolina Biological Supply Company

2700 York Road
Burlington, NC 27215
800-227-1150 x5262

For 80+ years Carolina has been a family owned company founded by Dr. Powell, a devoted science professor at Elon University in North Carolina who recognized that students learn best by "doing". Over 25 years ago, Carolina entered into a partnership with the Smithsonian Science Education Center to create and publish instructional units that have been integrated into school district curriculum documents to provide "active learning and instruction" in science and STEM education. The result has demonstrated statistically significant advancements in student achievement that show improvements in diverse populations including female, urban, rural, and ELL students across the nation.

TT 22 — Central Michigan University

ET 200 CMU
Mt. Pleasant, MI 48859
989-724-4400 x1874

Central Michigan University is a community where 28,000 students a year acquire the skills to research and preserve the earth's resources, to start businesses, to teach our nation's youth, and to treat and prevent disease.

107, 109 — Consumers Energy

2400 Weiss Street
Saginaw, MI 48602
989-791-5960

Consumers Energy is committed to educating Michigan students about energy safety.

305 — Drug & Laboratory Disposal, Inc.

331 Broad Street
Plainwell, MI 49080
269-685-9824

Exhibitor Information

TT 42 — EcoWorks Youth Energy Squad (YES)

4835 Michigan Ave.
Detroit, MI 48210
313-815-3609

The Youth Energy Squad (YES), grows the next generation of green leaders in hands-on education and science learning projects that make schools, homes, and communities more environmentally sustainable.

330 — XploreLearning

110 Avon Street, Suite 330
Charlottesville, VA 22902

ExploreLearning develops online solutions to improve learning in math and science including: Gizmos - online simulations for grades 3-12; and Refles - a math fact fluency solution.

309, 311 — Flinn Scientific, Inc.

PO Box 219
Batavia, IL 60510
630-879-6900

Flinn Scientific is the leader of Science and laboratory chemical safety, offering a full line of chemistry, biology, physics, life science, earth science, physical science, and safety products.

TT 40 — Food & Drug Administration - Detroit District

300 River Place, Suite 5900
Detroit, MI 48207
313-393-8196

FDA's responsible for protecting the public health by assuring the safety, efficiency, and security of human and veterinary drugs, food, medical devices, biological products, cosmetics, and products that emit radiation.

308, 310 — Houghton Mifflin Harcourt

One Fierce Place, 900W
Itasca, IL 60143
630-467-6406

K-12 educational curricula, technology and professional development.

TT 18 — Inland Seas Education Association

PO Box 218
Suttons Bay, MI 49682
231-271-3077

Inland Sea is a nonprofit organization dedicated to helping people of all ages experience the Great Lakes through hands-on, experiential learning activities aboard a tall ship Schoener.

TT 43 — GLS Institute of Food Technologists

7575 Fulton Road
Ada, MI 49355
616-787-5350

IFT is an international professional association compiled of chemists, microbiologists, nutritionist, engineers, and food scientist dedicated to providing safe and nutritious food to the world.

206 — It's About Time Publishers

333 North Bedford Road
Mt. Kisco, NY 10549

It's About Time is the global leader in research-based Science, Technology, Engineering, and Mathematics (STEM) curricula for 5 - 12 and college students. Modeled on the way practicing scientists, engineers and mathematicians work, the IT'S ABOUT TIME project-driven STEM solutions give educators tools to create a meaningful and joyful learning environment that deepens student engagement and problem-solving skills.

TT 44 — Kellogg Biological Station - MSU

3700 East Gull Lake Drive
Hickory Corners, MI 49060

Kellogg Biological Station is Michigan State University's largest off-campus sites. Scientist with local teachers, share today's science-ecology, climate change, evolution, and sustainable agriculture.

Lab-Aids Inc.

Location: LC - Banquet Room 5
1487 Gerrard Ave.
Columbus, OH 43212

LAB-AIDS, a catalyst for learning. Our focus is hands-on, research-based, and field-tested programs that build a strong and lasting foundation of knowledge allowing students to take ownership of their learning while supporting teachers in every possible way.

TT 29 — Lawrence Technological University

21000 West 10 Mile Road
Southfield, MI 48075
248-204-3160

Lawrence Technological University offers over 80 academic programs through colleges of Architecture and Design, Arts and Science, Engineering and Management.

400, 402 — LEGO® Education

20355 Danbury Lane
Harper Woods, MI 48225
313-647-0043

LEGO Education combines the unique excitement of LEGO bricks with hands-on classroom solutions.

Exhibitor Information

TT 4 — Michigan Alliance of Environmental & Outdoor Education - MAEOE

PO Box 271
Birmingham, MI 48009
248-646-6142

The Michigan Alliance for Environmental and Outdoor Education's (MAEOE) goal is to promote environmental literacy through education and give educators and the public a knowledge of ecological awareness and sustainability.

TT46 — Michigan eLibrary/Library of Michigan

702 West Kalamazoo
Lansing, MI 48915

The Michigan eLibrary (MeL.org) is our state's digital library providing access to amazing set of FREE resources for teacher, students, and all Michigan residents!

218 — McGraw-Hill School Education Group

8787 Orion Place
Columbus, OH 43240
614-430-4709

McGraw-Hill Education is a learning science company that provides customized educational content, software, and services for Pre-K through Post Graduate education.

TT 30 — Metropolitan Detroit Science Teachers Association

21610 Kenosha Street
Oak Park, MI 48237

121 — MEEMIC Insurance Company

1685 N. Opdyke Road
Auburn Hills, MI 48326
248-373-5700 x31669

MEEMIC exclusively supports the educational community with auto, home, boat, and umbrella insurance products through MEEMIC Insurance Company and grant opportunities through the MEEMIC foundation.

TT 28 — MI Antibiotic Resistance Reduction (MARR) Coalition

6152 E. Longview Drive
East Lansing, MI 48823

The MARR Coalition seeks to improve antibiotic stewardship through education about the appropriate use of antibiotics and reduce antimicrobial resistance rates in communities throughout Michigan, nationally, and internationally.

TT 11 — Michigan Department of Environmental Quality

525 West Allegan Street
Lansing, MI 48933
517-284-6867

To promote wise management of Michigan's air, land, and water resources. To support a sustainable environment, healthy communities, and a vibrant economy.

TT 2, TT 3 — MI Dept. of Natural Resources

530 West Allegan - DNR Mason Bldg.
Lansing, MI 48933
517-373-7306

The Michigan Department of Natural Resources (DNR) offers materials and opportunities for Michigan education and students K-12.

TT 20 — Michigan Agriculture in the Classroom - MI Farm Bureau

7373 W. Saginaw Hwy.
Lansing, MI 48909
517-323-7000 x3213

Michigan Ag in the classroom provides agriculture-themed lessons for teachers and students across all grade levels and subject areas.

408 — Michigan Mathematics & Science Centers Network

12620 Portsmouth Court
Plymouth, MI 48170
734-612-8780

Michigan Mathematics and Science Centers Network provides professional learning opportunities for science and math teachers throughout Michigan.

TT 21 — Michigan Science Center

5020 John R Street
Detroit, MI 48202
313-577-8400

TT 24 — Michigan Sea Grant

520 E. Liberty St., Suite 310
Ann Arbor, MI 48104
734-647-0767

Michigan Sea Grant supports research, education, and outreach efforts designed to foster science-based decisions about the use and conservation of Great Lakes resources.

TT 5 – Great Lakes Renewable Energy

PO Box 534
Rockford, MI 49341
616-813-2384

501(c)3 with mission to educate, advocate, and promote Renewable Energy. Website has details on heating up STEM solar cooking contest. grea.org

Exhibitor Information

TT 41 — Michigan Tech

1400 Townsend Drive
Houghton, MI 49931

Michigan Tech offers a master's degree in Applied Science Education and summer professional development courses for science and mathematics teachers.

TT 13 — TRACKS Magazine - Michigan United Conservation Clubs

211 Wood
Lansing, MI 48912
517-346-6466

TRACKS magazine focuses on Michigan animals and is a great way to introduce students to science. It's filled with facts, posters, and wildlife information.

TT 31-34 — MSTA

TT 14 — MSU College of Osteopathic Medicine

C103 East Fee Hall
East Lansing, MI 48824
517-353-8799

MSU College of Osteopathic Medicine - answering the call to healing through the Science of Medicine, the art of caring and the power of touch.

220 — Nancy Larson Science

PO Box 688
Old Lyme, CT 6371
860-434-0800

Nancy Larson Science provides a complete hands-on elementary science curriculum that integrates science and literacy and is easy for teachers to use.

410 — NASCO

901 Janesville Ave.
Fort Atkinson, WI 53538
920-563-2446

Nasco specializes in elementary and secondary science materials, kits, live and preserved biologicals, and lab equipment. We focus on quality products and budget-sensitive prices. Please visit us at www.eNasco.com or call 800-558-9595.

TT 26 — National Energy Foundation

225 Fifth Street
Benton Harbor, MI 49022
269-208-0370

National Energy Foundation is a non-profit educational organization dedicated to energy efficiency and resource conservation outreach. We provide programs sponsored by utility companies in Michigan.

TT 36, TT 37 — NSTA Press

365 Rosewood Ave.
East Grand Rapids, MI 49506
16-450-0122

NSTA Publishes outstanding Science trade books for students K-12. On display are recent and popular titles.

TT 23 — Organization for Bat Conservation

39221 Woodward Ave.
Bloomfield Hills, MI 48303
248-645-3232

The Organization for Bat Conservation is a non-profit dedicated to teaching people about bats and other nocturnal animals, and inspiring people to protect the environment.

301 — PASCO Scientific

10101 Foothills Blvd.
Roseville, CA 95747
800-772-8700

PASCO Scientific helps students "think science" with its award-winning, state-of-the-art, science learning standards-based content, probe ware, and data collection and analysis.

229, 231 — Pearson Education

313-236-7380

Pearson Interactive Science makes all students want to learn more about science and helps students develop scientific literacy so they better understand the world we live in.

TT 16 — People for the Ethical Treatment of Animals (PETA)

501 Front Street
Norfolk, VA 23510

People for the Ethical Treatment of Animals (PETA) is the largest animal rights organization in the world, with more than 3 million members and supporters.

322 — Potter Park Zoo

1301 S. Pennsylvania Ave.
Lansing, MI 48912
517-342-2714

Potter Park Zoo is an escape to nature in the heart of Michigan's capital city. Open year round and home to over 500 animals!

222 — Rent A Rambling Naturalist

2320 Sycamore Lane
Kalamazoo, MI 49008
269-343-1886

Embark on a journey through Natural Wonders, exploring natural science and history. Learn to live in harmony with the earth and its diverse ecosystems!

Exhibitor Information

209 — Scholastic Library Publishing

35460 Heritage Lane
Farmington, MI 48335
248-474-6527

Scholastic Library Publishing is a publisher of science nonfiction, digital resources for K-12, including Science FLIY, True FLIY, and Grolier on-line.

TT 38, TT 39 — Square One Education Network

670 Hillcliff Drive
Waterford, MI 48328
248-736-7537

The Square One Education Network is a nonprofit educational organization. Our purpose is to create and fund powerful, relevant experiences for K-12 teachers and students that creatively integrate science, technology, engineering and mathematics (STEM) using best practices supported instruction through unique project designs.

300, 302 — Teachers' Curriculum Institute - TCI

2440 W El Camino -Suite 400
Mountain View, CA 94040
800-497-6138

TCI is a K-12 publishing company created by teachers, for teachers. We believe the best teaching marries great content, meaningful technology, and classroom experiences.

TT 1 — Teachers2Teachers International

1920 S. Lakeshore Drive
Chapel Hill, NC 27514
919-619-5723

Teachers2Teachers International is a 501(c)(3) organization that provides culturally sensitive professional development for teachers worldwide.

TT 9 — The Air Zoo

6151 Portage Road
Portage, MI 49002
269-382-6555

The Air Zoo is one of the nation's premiere hands-on, indoor aerospace and science education centers.

318 — The INQUISITIVE PIONEER

7430 Plainfield
Dearborn Heights, MI 48127
313-561-5261

The INQUISITIVE PIONEER by Bryan Purcell - the book series of at-home basic-material science activities focused on Data Analysis solving with a slide rule.

TT 12 — The Mallinson Institute for Science Education

193 W. Michigan Ave.
Kalamazoo, MI 49008
269-387-5398

Complete your MA in Science Education online with nationally recognized faculty. www.wmich.edu/science

204 — The MarkerBoard People

1611 North Grand River
Lansing, MI 48906
800-379-3727

Dry Erase Boards, marker, erasers and accessories. Perfect for Science, Graphing and MORE!!!

TT 27 — Van Andel Education Institute

333 Bostwick Ave. NE
Grand Rapids, MI 48838
616-234-5484

NexGen Inquiry is web-based instructional software for teachers to engage students in science and engineering practices to support the implementation of Michigan Science Standards.

119 — Vernier Software & Technology

13979 SW Millikan Way
Beaverton, OR 97005
503-277-2299

Vernier creates easy-to-use and affordable science interfaces, sensors, and graphing/analysis software. Vernier's technology-based solutions enhance STEM education, increase learning, and build students' critical thinking skills.

125, 127 — Wayne State University - College of Education - College of Liberal Arts & Sciences

4841 Cass Ave.
Detroit, MI 48201
313-577-9563

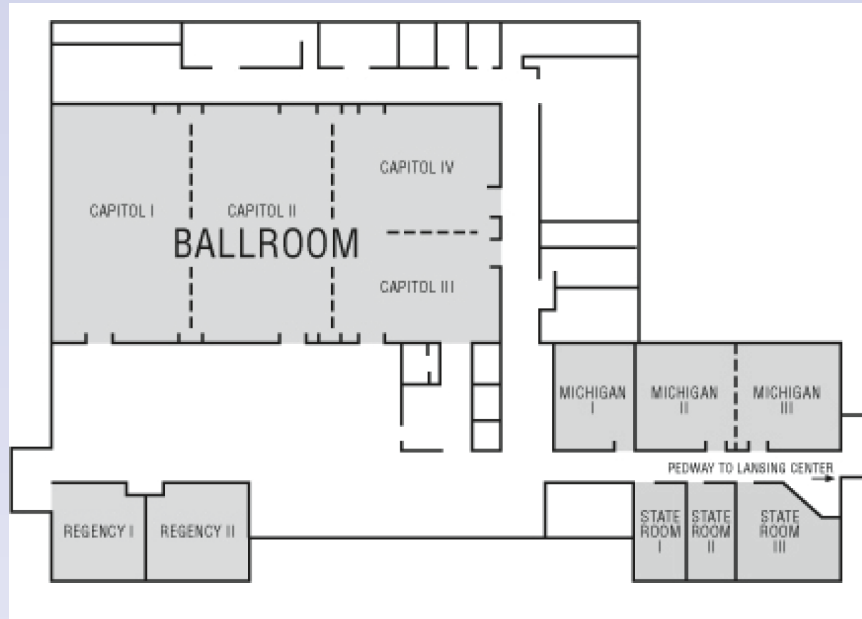
Wayne State University - The College of Liberal Arts and Sciences, and the College of Education, will advertise their programs for K-12 science teachers and school administrators.

TT 10 — YMCA Hayo-Went-Ha Camps

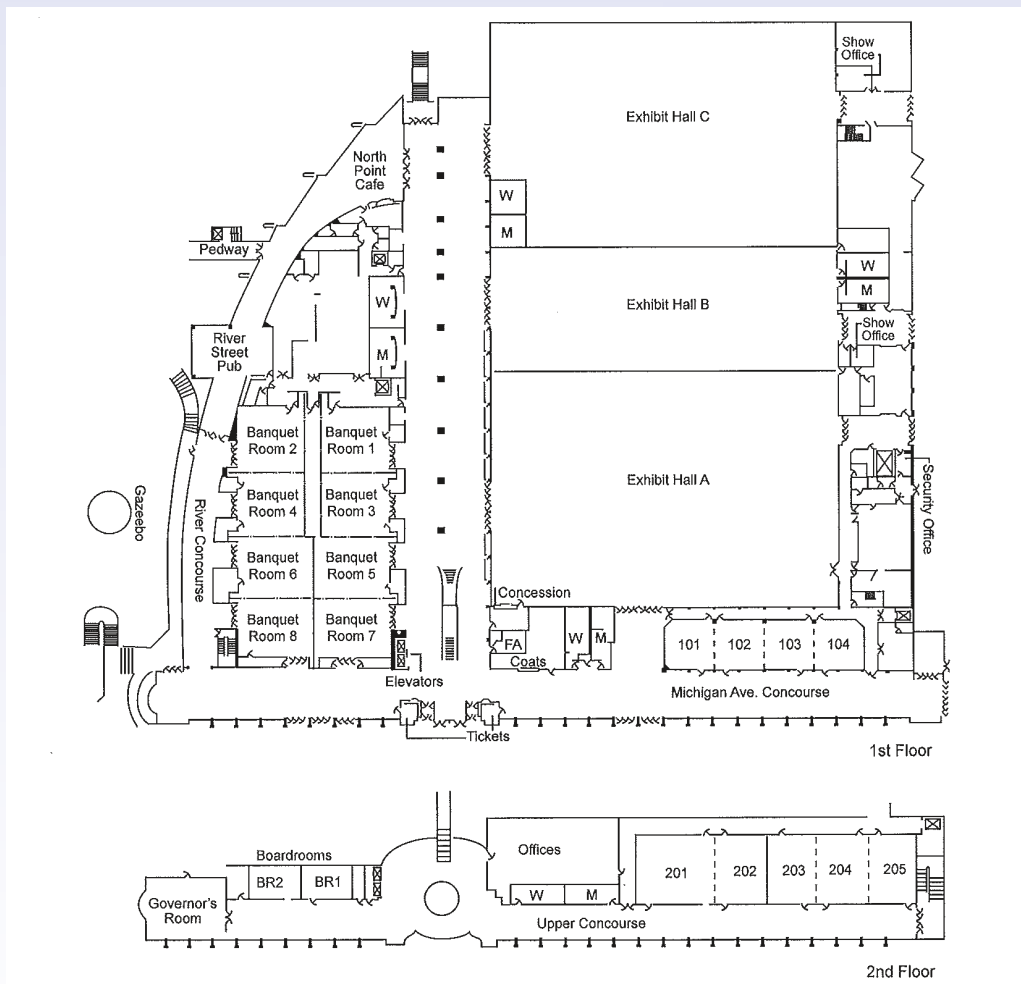
919 N. East Torch Lake Drive
Central Lake, MI 49622
231-709-0865

YMCA Hayo-Went-Ha Camps offers experiential environmental education programs to students of all ages. Nestled among the beauty of Northern Michigan.

Radisson Hotel Map



Lansing Center Map



School Field Trips and Overnight Camps

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With nearly 300 acres of waterfront, woodlands, and wetlands, the Howell Nature Center offers a unique opportunity for challenge, exploration and discovery. Plan an overnight visit and take advantage of all the exciting educational opportunities — from team building, to social studies, to science—our facility has to offer.



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- Serving educators since 1980
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- Zip line course includes a 500' span that soars over a pond!

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- Live Animal Presentations
- Food Chain
- Predator/Prey Games
- Pond study

Over 60 program options!

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- Shelter Building, Orienteering, and Other Survival Skills
- Skits, Gaga Ball, and Other Traditional Camp Activities
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Top-notch programs for educators:

Department of Education is centered on engaging the urban community. Its unique Metropolitan and research opportunities only found at Wayne State. Programs at the graduate level can be found in various areas of study, formats and have multiple opportunities for advancement.

Math – focused

History & Research

Education & Policy Studies

Leadership

Science

(Environmental Science)

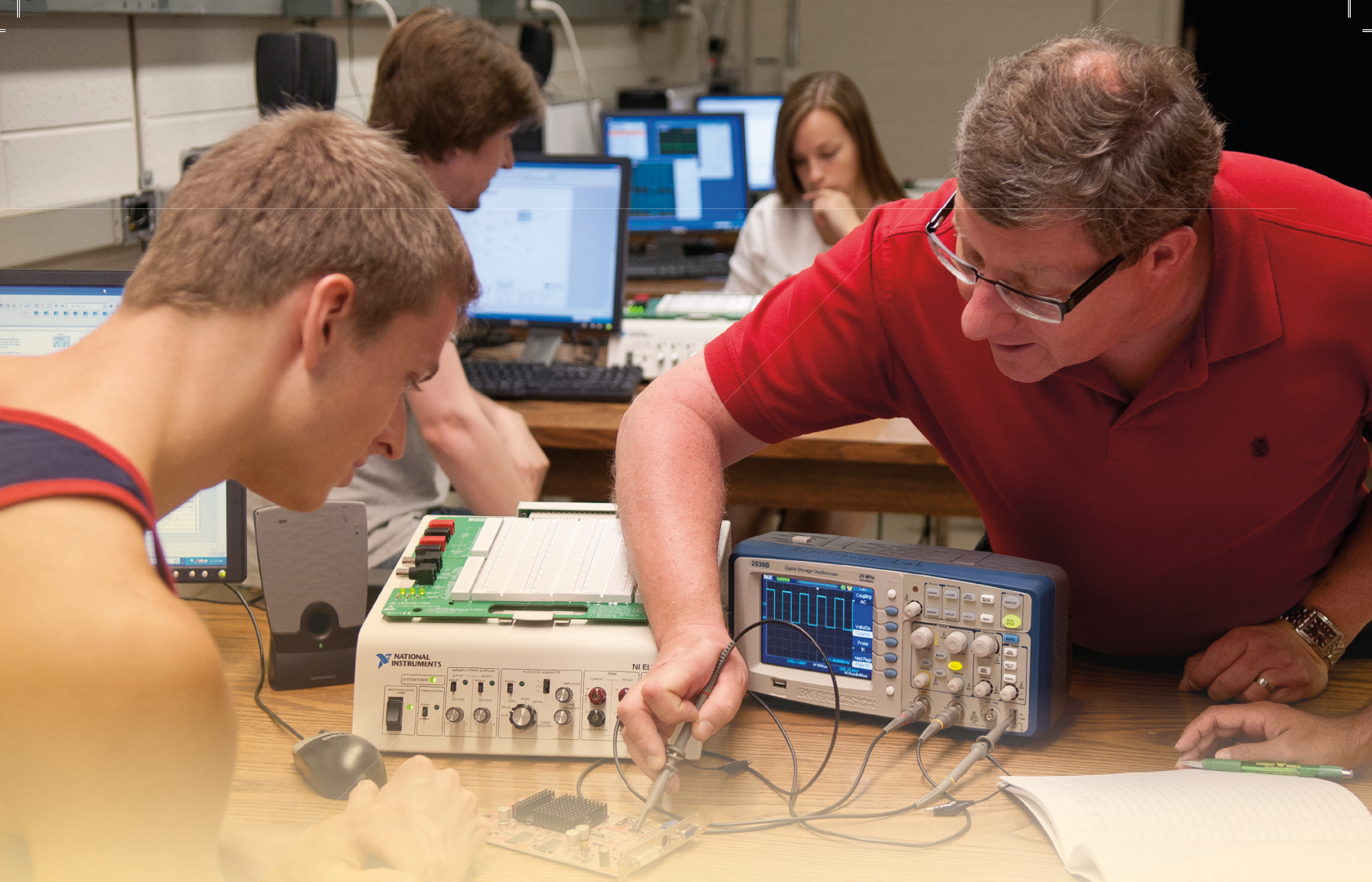
Centered programs

Learning goals

- Degree/certificate options available: Bachelors of Arts/Science, Graduate Certificates, Master of Arts, Masters of Education, Education Specialist Certificate, Doctor of Education, and Doctor of Philosophy.
- Additional endorsements to teaching certificates.
- Opportunities to meet online, face-to-face and in hybrid formats.



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There's unrivaled opportunity in the heart of Detroit, a city whose history, culture and economic resurgence make it one of the most fascinating places in the world. Join us at Wayne State University and take part in the reinvention of a great American city.



AIM HIGHER